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THE
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A JOURNAL OF ART, CIVIL ENGINEERING & BUILDING.

THE WEEK.

The County Council of London on Tuesday approved of the agreement with Mr. A. Drury, A.R.A., respecting the preparation of panels for Vauxhall Bridge. The agreement provides for the payment of the sum of 1,200*l.* to Mr. Drury for the modelling and casting of each of the eight panels for the bridge, including everything necessary to render the panel fit and ready for fixing. Mr. Drury undertakes to indemnify the Council from all claims that may be made by any other persons associated with him in the design and execution of the work. All models and completed castings will be the property of the Council, and Mr. Drury is precluded from reproducing the panels or any part of the designs in any form or shape. In the event of the work not proceeding beyond the stage of sketch models being made, Mr. Drury is to be paid the sum of 100*l.* for each of these made by him. The expenditure for this portion of the work was sanctioned by the Council on May 19, 1903. Vauxhall Bridge, whatever may be its shortcomings in other respects, will be unique among metropolitan bridges in having embellishments by a sculptor. If Mr. Drury's panels are successful, or, in other words, find favour with the public, the London County Council have opportunities enough for using sculpture in connection with other bridges and elsewhere.

The long strike of the bricklayers and masons which has jeopardised the building trade of Dublin has been summarily brought to an end through the decisive action of Mr. Alderman Cotton. Any conduct more one-sided or unfair than that of the men cannot easily be imagined. Like so many working men, they objected to employers who were acquainted with all the details of the trade, and they sacrificed their interests whenever opportunity arose. Tradespeople who tried to make a supplementary business by undertaking contracts for building or repairing buildings were treated by the bricklayers and masons with special favour. For that class of employers the men were willing to carry out work on what might be regarded as liberal conditions, or, in other words, they were willing to sacrifice their own prejudices in order that the public might come to the conclusion that it was wiser to employ a draper or an ironmonger than a regular builder. All the masters asked was that similar concessions should be granted by the men to them, for the building business was being undermined by those who had the best right to uphold it. The workmen refused. They insisted on having one rule of conduct when dealing with building firms and another with amateurs. They went on strike, and they found to their dismay that the amateurs could not find employment for them. Much destitution followed, and at last the men had to succumb. The decision which Mr. Alderman Cotton has given, and by which all employers are to be placed under equal conditions, is, we imagine, as satisfactory to the duped workmen as to their former employers.

At a time when trade is in an uncertain state, it seems more annoying that buildings should cost more than had been anticipated. It cannot be denied that throughout the country there is much dissatisfaction on the subject. One of the latest instances is the Technical Institute in Portsmouth. When the building was proposed it was anticipated that the total cost would not exceed 40,000*l.* The assessor who examined the designs, it appears, expressed the opinion that the work could be well carried out for that sum. When the tenders were received the lowest amounted to 82,000*l.* By alteration of the plans a building was produced which would cost 62,000*l.* But alterations were made from time to time, and it is now said that the Institute will cost more than the town hall. In other towns people would give perhaps but slight attention to the progress of such a building. There might be grumbling, which would soon pass away, and no more. But in Portsmouth there have been great changes in the administration of the dockyard, and hundreds of workmen have been dismissed, the majority of whom it is expected will have to depend upon the rates for support. There is general alarm about how all expenses are to be met. The town hall gives an opportunity for the discontented to descant upon municipal extravagance. That, however, is not so bad as the creation of a belief that architects' estimates are not to be relied on, and it is more economical to trust entirely to an official who, whatever faults he may commit in his design, will at least endeavour to be lenient to the ratepayers.

The decision of Mr. Marsham in the Bow Street police court on Tuesday, that the sphere which surmounts the Coliseum Theatre did not form part of the building, may hereafter give rise to important results. When the case first came before the magistrate some weeks ago the County Council contended that there was no sanction of the sphere, which was a sky-sign, and evidence was given that the sphere did not appear on the plans submitted by the company. Mr. Matcham, the architect, said the earliest designs showed a tower surmounted by a sphere, and the tower would be incomplete without it. He stated that the whole erection was carried out under the supervision of Mr. Hayward, the district surveyor, and no question was ever raised by him with regard to the tower or the globe upon it. An engineer who supervised the construction said the sphere was attached to the inside of the building and was made to revolve by a motor about 45 feet below. As the structure was made of steel ribs about 12 feet 9 inches in height, it could not well be regarded as a sky-sign if incandescent lamps forming the word "Coliseum" had not been attached to the structure. Mr. Marsham considered that the sphere was over or above the building; and, although there were doubts about the case, he concluded it was a sky-sign within the Act. The removal was ordered as well as the payment of 15 guineas costs, but Mr. Marsham said he would be glad to state a case for a higher Court, and that course will be followed.

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WAKEFIELD CATHEDRAL.*

"THEY dreamt not of a perishable home who thus could build," said Wordsworth when recording his impressions of King's College, Cambridge. The words are no less applicable to many ecclesiastical buildings in this country. Among others the parish church of All Saints, which is now the cathedral of the diocese of Wakefield, may be cited. Those who erected it could not have anticipated that it would ever be more than the parish church of an industrious town. It had not the prestige belonging to an abbey or collegiate church; but the people of Wakefield must have been generous in their contributions, otherwise they would not have raised a tower and spire to a height of 228 feet, the church being 156 feet in length and 69 feet in width. There was, moreover, so much dignity about all the parts that now, after the additions designed by Messrs. Pearson, the building cannot be considered as unworthy of the purposes for which a cathedral has to serve. It is well also to remember, in considering the building, that owing to the generosity of the parishioners Wakefield Church underwent several restorations, which did not of course help to preserve its original character.

The town deserved to have a large and handsome church. It possessed a history. The Romans are supposed to have had a station there. At the time of the Conquest the town must have been of importance, for it is recorded in Domesday. For a while it was a Crown manor. Wakefield was also in A.D. 1460 the scene of a great battle between the rival houses of York and Lancaster. The Duke of York, who commanded on one side, was the inferior in force, and he was either killed in the battle or taken and beheaded. The event had interest beyond its effect on the politics of the time. When the son of the Duke, Edward IV., became King of England, he rebuilt the interesting chapel on the bridge over the Calder, which is now probably considered by the majority of visitors to be the most interesting object in Wakefield.

The diocese of Wakefield has been mainly derived from that of Ripon. But Ripon as a diocese only dates from 1836. Prior to that year Wakefield formed part of the arch-diocese of York. Archbishop William de Melton, who was one of the militant ecclesiastics of the Middle Ages—for he did not hesitate to attack the Scottish army at Myton at the head of a band of untrained countrymen—is recorded to have consecrated the parish church of All Saints in 1329. It is supposed that a Norman church existed until that time, but the co-existence of the two is incredible. The building we see, however, as may be judged from the style, is of later date, and is believed to have been consecrated in 1470. The work must have taken many years to carry out, for in Leyland's "Itinerary," which was written about 1536, it is described as if it were a new building. According to the topographer, "the building of the town is meately faire, most of tymbre, but some of stone." Leyland, however, appears to have been most impressed with the good cheer which was obtainable on moderate terms in Wakefield. He says:—"It is a very quick market-towne and meately large; well served of flesch and fisch, both from the se and by rivers, whereof divers be thereabout at hand, so that al vitaile is very gode chepe there. A right honest man shal fare well for two pens a meale."

During the eighteenth century the greater part of the exterior of All Saints is supposed to have been rebuilt. The spire, which was said to have been the highest in Yorkshire, was lowered. During the last century there were important works carried out. The height of the spire was increased, and about A.D. 1860 it was rebuilt; the crockets which now give so much character to that part of the building were then introduced. Rickman, when writing of the earlier steeple, said, "Wakefield steeple is finely proportioned, though plain, and it is singular for its machicolations in the top of the tower." The spire evidently presented a different appearance to that now seen. At a later time the body of the church was restored under the direction of Sir Gilbert Scott at a cost of over 30,000*l.* The building was accordingly not unsuitable for a cathedral on a limited scale when Bishop Walsham How was in 1888 transferred to Wakefield. He ruled the new diocese for about nine years.

After his death it was decided to enlarge the cathedral, the additions serving as a memorial to the first bishop. There could be no question about the requirements. As part of a parish church, the chancel was necessarily limited in its area. It was therefore not adapted for the ceremonies of cathedral services, when it would be necessary to accommodate not only a choir, but several canons and other officials. The late Mr. J. L. Pearson therefore recommended that the church should be extended in order to allow for more dignity to the chancel, as well as to supply a chapel for an early service, and, what was no less important, a vestry on an adequate scale.

By means of the addition the cathedral may be said to be now divided into two parts of similar length. The nave and aisle, with the porch, are equivalent to the space occupied by the retro-choir, chancel, transepts and chapel, the last corresponding in position with the Mediæval lady-chapel. It is needless to say that the stalls and other features are of a character which expresses the purpose of the additions. New stained-glass windows have been also introduced. The tomb of Bishop Walsham How, with a recumbent figure of the prelate, has been erected in a prominent position. Other additions are a chapter-house and vestries for the clergy and choir, which have been constructed beneath the new chapel. They are approached by a staircase from the north transept. When the plan was prepared by Mr. Pearson, Dr. Walsham How's successor emphasised its character by saying that it met the problem of the transformation of a fine parish church, without spoiling it, into a cathedral which would be adequate to the needs of such a diocese as Wakefield. Mr. Pearson's estimate was 20,700*l.* In the course of two years it was found that about 20,000*l.* had been promised or received. It was necessary, however, to expend 8,440*l.* in purchasing property in order to improve the site and in compensation for loss of light and air, for even a cathedral has to be subjected to a law which is often obnoxious. The committee resolved to accept the tender of Messrs. Armitage & Hodgson, of Leeds, which amounted to 24,373*l.* It was further resolved that the contract should be divided into two portions, and that the first, which included the chapter-house and two vestries, should be entirely completed before the second was proceeded with. It is believed that the total cost will be about 45,000*l.*

The works were carried out with a care becoming their importance. After the death of Mr. Pearson they were directed by his son, Mr. F. L. Pearson. The extension was consecrated by the Bishop of Wakefield on last Easter Tuesday, and a week was occupied with special services. Fergusson spoke with admiration of the simplicity and squareness of plan of the cathedral of York, which is, he said, unlike anything to be seen abroad. The church is divided into two equal parts, one devoted to the clergy and the other to the laity, and "there is none of that wealth of private chapels which distinguishes continental cathedrals and churches, or even Canterbury, the most foreign of our English examples." The words are to a large extent applicable to the much smaller cathedral of Wakefield. Clergy and laity can claim an equal share in the building. The plan is practically a rectangle, the projecting porch at one end being balanced by the projecting chapel at the other. The latter is not a private chapel, but is, as we have said, intended for early services. The simplicity of the planning no doubt deprives the building of features in which Mediæval architects evidently found most delight—side chapels, chantries and recesses which excited the surprise of the spectator. The builders of the parish church of Wakefield were satisfied with building on a simple plan, and we assume their modern successors have inherited a similar inclination.

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* See Illustration.

A UNIVERSITY OF SCIENCE.

FROM the time when men first began to think they have been seeking after unity. There must be something resembling an instinct which compels them to act in that way. While theory and theology ruled the world the quest had not much relation to ordinary life. But as soon as it was discovered that science was an aid to the production of wealth the desire for unity assumed a different form. The belief that a great many things could be converted into gold was no more than a material expression of longings which were as old as the Greeks. In our time we constantly hear about the unity of the arts and the unity of science—phrases which have different meanings for different people. Probably the need is most strongly developed in the endeavour to have centralisation among institutions. It is found in war that a commander can sit comfortably inside his tent and deliver directions for the fighting of a great battle with as much ease as if playing a game of chess. Civilians also who hold appointments believe that a country is most efficiently governed when everything is directed from a single office.

Education is a subject which is especially fascinating to centralisers. The English universities, which during a long period have exercised an influence over English life which is advantageous, have had from time to time to submit to inquiries which were instituted by those who wished to control education under all forms, by insisting on the adoption of a single system throughout the country. The history of industrial art affords a striking example of the aims of men who seek for unity although in a material form. The schools of design were experiments, and if left to local control English industrial art would by this time have gained a distinctive character both for beauty and appropriateness. The whole of the schools were, however, brought under one system which dictated the kind of types which were to be adopted, thus creating official circumlocutionary art which unhappily is not yet extirpated. At the time there was a geological survey in operation connected with the Department of Woods and Forests, for coal was looked upon as more important than cotton printed with patterns. To the official mind art seemed to want its complement in science, and the geologists of the Survey found they were obliged to act as professors. They were able to secure a partial independence, but eventually South Kensington monopolised everything. The School of Mines was transferred and became a school of science, by which arrangement all surviving independence was cleared away.

At a later date South Kensington was the victim of the system it originated. It simply became one of the numerous accessories of a Board of Education. It was also deemed necessary to put an end to those principles of art which the official mind had formulated. There was likewise a return to the primitive system. As in the days of the schools of design, local influence had to be respected, the only difference being that municipal control was substituted for what used to be voluntary.

Art, unfortunately, is not recognised in our day as having any value if compared with science. The rivals who are most dreaded are the Germans, and it is assumed that they owe all their success to science alone. That, of course, is a delusion; but for the moment it is accepted as an unquestionable truth. The effect of the belief has been that during the last quarter of a century large sums of money have been expended on various ways of teaching science. The results have not corresponded with what was anticipated; we still seem to be as far behind the Germans as ever. In England everything is connected with cash, and when we find that the Corporation of London, which once gave 2,000*l.* to the City and Guilds of London Institute, now only give 400*l.* a year; that the Mercers' Company have reduced subscriptions from 3,000*l.* per annum to 1,000*l.*, and the Fishmongers' from 4,000*l.* to 2,000*l.*, it becomes evident that either the right method of instruction has not been adopted, or that the students are not of a desirable class.

Under such circumstances the advocates of centralisation do not hesitate to declare that everything has gone wrong through the diversity of the schools and other institutions, and that there is only one remedy, which, of course, is unity of control. In April 1904 a departmental committee was accordingly appointed to inquire into the present and future working of the Royal College of Science, but as the members were also allowed "to inquire into questions connected therewith," we may say the whole question of teaching practical science in London had to be investigated. The preliminary report has been completed. It was signed in February, but was not issued until this week.

The most important feature is that the departmental committee recommend the creation of a central college or chief technical school of the Empire. The position assigned for it is at South Kensington. For the attainment of such a scheme a gift of not less than 100,000*l.* and not less than 4 acres of land are necessary. The Science College and the City of London Guilds Institute and University College and King's College are all to become subservient to the new institution. There is to be a Council representing all the large interests concerned, including His Majesty's Government. But it is not considered desirable that either the educational or financial administration of the chief technical school of the Empire should be vested entirely in the Government. The Board of Education will hold only a very minor position in the carrying out of the new programme.

There is no denying that such a scheme is grandiose in its aspirations. To have a college of technology on a colossal scale, with other institutions acting as supernumeraries, is enough to captivate a great many people. In some things it may be advantageous, as the politicians tell us, to think imperially. But in all that relates to applied science or applied art the expression is misleading. As late as the eighteenth century students of literary composition used to be told that when they were setting about any exercise they were to ask themselves, "How would Homer treat this theme?" In the early days of the Royal Academy the students were likewise advised to set about their designs in the spirit of Raphael or Michel Angelo. There is no doubt that to work in that way would be working imperially. Nevertheless, a professor who would offer such a recommendation in our time would be laughed at. In science the men who can be considered imperialists are always very few. A Bacon may take all knowledge for his province while a young man; but John Smith, who aspires to be an assistant chemist in a soap factory, would be unwise to entertain such an ambition. After long years of practice he may begin to discover all the relations of soap with various sciences. But he has in the first place to earn a living and to make his way. If we look at our trade returns we find that those products by which the Germans have ousted English manufacturers do not necessarily require such science as would qualify a man to be President of the Royal Society or professor in a university. The goods are not superior in quality, but they are supplied at a cheaper rate. German success is in fact more owing to tact in administration than to science. But unfortunately the outcry is loudest with men of science in this country, and the public who are ignorant look to science for remedy instead of to greater skill in business. The instruction that is desirable can be imparted with more success in provincial towns, where the student can without going far see the practical application of those sciences he is expected to possess. A similar result can be produced by the gigantic machinery the departmental committee recommend, but if all the proposals were realised, the chief interest in the Imperial Technical School would be in its symbolic character as a memorial of the spirit of centralisation.

THE GENEVA SCHOOL OF FINE ARTS.

By Lawrence Harvey.

In July last year *The Architect* published an account of the visit of several managers of Yorkshire Art Schools to the School of Arts and Crafts of Geneva. This visit promises to have a deep and wide effect on the art teaching of Great Britain. By permission of the Geneva Government a selection of the works of the students of the Geneva school has been exhibited at Leeds, Dublin and Kingston. The manager of the Geneva school, M. Bécherat, was invited to explain the exhibits and the system of teaching to a committee composed of Lord Londonderry, the President of the Board of Education, and other eminent men interested in this question. The result of this campaign, initiated by the Department of Public Instruction of the West Riding of Yorkshire, is that schools on the model of the Geneva institution are about to be organised all over the kingdom.

To promote the success of this undertaking, I desire to add some information which M. Bécherat may have forgotten to give. In my opinion, the practical success of the Geneva school is to a great extent due to M. Bécherat himself, who has always insisted on the studies never losing their practical object, viz. rendering each pupil able to earn his livelihood immediately on leaving the school. Moreover, M. Bécherat has exerted himself in finding well-remunerated berths for old pupils, in gaining friends to the school by his cordial welcome to visitors, and by making known the advantages of his school to the world at large. I believe that the success of the proposed new or revised English art schools will to some extent depend on having as managers men of business such as M. Bécherat.

This year the remarkable success of an English maiden of sweet sixteen as a sculptor, Miss Roberta Meikle, of Parkstone, Dorset, has drawn my attention to another Geneva institution. Miss Meikle is a pupil of the City of Geneva School of Fine Arts, where she has just obtained the first prize for sculpture in a competition for modelling from the cast the head of Laocoon, a most difficult task. Miss Meikle's work is a very creditable performance, which does honour to British pluck and artistic capacity.

The main interest of the School of Fine Arts, belonging to the city, not to the state, of Geneva, lies in the fact that it is nearly the oldest public institution in Europe for the teaching of art; a very extraordinary fact, when we remember how much the Church of John Calvin was inimical to paintings and sculpture. An art school in Geneva two centuries ago seems as much an anomaly as if Cromwell and his Ironsides had started a school for teaching painting and sculpture in Whitehall Palace. The history of the Geneva school teaches us that there is one more powerful than John Calvin and Oliver Cromwell, whose name is Stomach.

At the beginning of the eighteenth century, that is, when in England Queen Anne ascended the throne, some Genevese citizens advocated the public encouragement of the study of drawing as indispensable for the development and prosperity of the various trades carried on in Geneva; that is, for clothworkers, silkstuff manufacturers, silversmiths and watchmakers, which were the staple trades of Geneva at that time. These proposals were at first rejected. In the month of February 1704, John and David André, master draughtsmen, addressed a petition to the State Council begging to be allowed to open a public school for the teaching of drawing. The Council refused, but, as compensation for their trouble in drawing a series of models, resolved to give them 12 crowns, and promised to have recourse to their assistance if ever it were decided to create a class for teaching drawing. On February 7, 1718, the celebrated lawyer Burlamachi proposed to the Council of the Two Hundred the introduction of the teaching of drawing in the college. On account of the opposition of the Venerable Company of Pastors, Burlamachi's proposal was rejected. In 1727 the same proposal was made in the Cabinet Council, and was likewise rejected. But on August 30, 1732, the Cabinet Council resolved to present to the Council of the Two Hundred a project for the establishment of a school for the teaching of drawing. The Council of the Two Hundred agreed to the principle of this proposal, but it was sixteen years later, in 1748, that the Council decided to establish a school of drawing. The school was opened June 7, 1751. Thus it took half a century to overcome the Calvinistic prejudices of the Geneva authorities in a matter which deeply affected the prosperity of the country.

At the opening there was such a rush on the school that it was not possible to accommodate all the candidates, although the masters had classes of sixty pupils each. Be it remembered that this took place in a small town, which had at that time less than 20,000 inhabitants, and it will be realised how much the new institution was required. It will be observed that this school was founded in 1748 for the promotion of trade—that is, for exactly the same purpose as the one pursued by the School of Arts and Crafts established in Geneva some thirty years ago; but the conception of what a school had to do was then quite different. In the new institution, l'Ecole des Arts Industriels, the pupil goes in raw and is taught an art-trade, after which he is ready to earn a living; and, with this purpose, the pupils attend school ten hours a day, just as if they were in an ordinary workshop. Under the old system, on the contrary, the pupil was supposed to be an apprentice in some private workshop, and to attend school only a few hours a day to learn drawing and modelling, or even painting if required in his trade. The same idea prevails in this establishment even to-day. Each class offers a series of lessons of two hours each during the course of the day, so that pupils may attend what lessons they require at the time that suits them best. Up to twenty years ago the apprentices in all the trades of the town went through this school; but now nearly every trade has its own special school in which drawing is taught, and therefore the number of pupils in the old school is much less than formerly. Nevertheless many fathers still prefer apprenticing their sons in the old way, and using this school to complete what the workshops cannot give, for they believe that a youth should get accustomed at once to the ways of the workshops in which he is called upon to pass his lifetime. To this opinion I beg to say I differ. The unfortunate experience of one of my friends with his son makes me doubt the wisdom of throwing a youth in the company of the rough, vulgar and sometimes immoral men who people most workshops.

At all events, from a very early period the fine arts, as such, apart from any application to industrial purposes, got recognition in the Geneva school. In the early thirties of last century nearly every young lady could draw the human figure pretty well and several were unrivalled portrait-painters. From a post-office directory of 1840, when the town counted about 25,000 inhabitants, I find there were more than 120 professional painters in Geneva, several of them of European fame. At the end of the eighteenth century, under the reign of Louis XVI. in France, Geneva furnished the French Court with some eminent sculptors, and in the beginning of last century the greatest French sculptor of his time was the Genevese Pradier, who had for rivals some younger, less known, but not less eminent Geneva artists.

At the present time the school is mainly devoted to pure art. It comprises classes of elementary drawing, perspective, floral ornamentation and figure decoration (that is, where the human figure is mainly used in the decorative features), ornamentation of jewellery and pottery, anatomy, figure drawing and painting from the cast and from life, architecture, modelling ornaments, busts and statues from the cast and from life. The school is served by a staff of about twenty professors, many of whom are very eminent men.

Last year there were 332 matriculated students, of which 149 were ladies. Of this number:—

165	are natives of Geneva	1	from Belgium
69	from other States of the	1	,, Spain
	Swiss Confederation	32	,, France
8	from Germany	2	,, Greece
1	,, U.S. America	2	,, Holland
12	,, England	1	,, Hungary
2	,, Armenia	16	,, Italy
5	,, Austria	4	,, Russia

It will be seen that, of the countries not an immediate neighbour of Geneva, England has by far the greatest number of students in the Geneva Art School, and I may add from private information that the English students are among the most able. Miss Meikle comes out first of her class in sculpture, and Miss Byrne is highly distinguished in human figure decoration. A Mr. Hargraves, a young man of seventeen, unfortunately deceased, gave every promise of becoming a great artist. May all those who come from England to attend the Geneva school likewise bring esteem and honour on our country.

SOUTHWARK CATHEDRAL.

THE church of St. Mary Overy, afterwards known as St. Saviour's, Southwark, is one of the most interesting churches of the Metropolis. According to Stow, one existed on the site long before the Conquest. In early days it was connected with a nunnery. But, according to Stow, "in the year 1106 was this church again founded for canons regular by William Pont de la Arche and William Dauncy, knights, Normans." That building was destroyed by fire in 1213, and another church was erected on the site by Peter, Bishop of Winchester. The greater part of the ancient work has been removed. Between 1818 and 1842 over 40,000*l.* were expended on improvements under the direction of George Gwilt, and it is not difficult to imagine what that signified. The church having been selected to serve as the cathedral for the new diocese of Southwark, it was inaugurated on Monday last, when their Majesties visited the building. On entering the cathedral an address was presented by Mr. J. T. Scriven, Warden of the Great Account, which expressed gratitude for the interest taken by their Majesties in the church by laying the memorial-stone in the nave, attending the thanksgiving service, and again coming to inaugurate the building. The ground on which they stood was classic ground—the place where Shakespeare made England famous, and whose younger brother lies buried here in company with Massinger and Fletcher—a place of literary renown long before then, in the days of Gower, who rests amongst us, and Chaucer, whose Canterbury pilgrims set out from the Tabard inn, once close at hand. The cathedral is the resting-place of more than one prelate, amongst them the saintly Bishop Andrewes. Here also the Anglican martyrs witnessed a good confession and braved the fires of Smithfield. Kings and queens have been associated with this church and neighbourhood in olden times. Henry IV. here attended the marriage of the Earl of Kent to the daughter of the Duke of Milan and gave the bride away. James I. of Scotland was wedded here to the niece of Cardinal Beaufort. Queen Elizabeth and Queen Anne were frequent visitors to this place.

His Majesty handed the following reply:—I am pleased to receive the address of your ancient Corporation to myself and to Queen Alexandra, and we are gratified by your loyal welcome and your warm expression of devotion to our Throne. The inauguration of St. Saviour as the cathedral church of Southwark is an occasion of special interest to me, as it indicates the completion of the work of the foundation of the new diocese which will, I am assured, prove a step of the highest importance in the advancement of the work of the Church and the promotion of religion and morality in the South of London. I rejoice that I am able to participate in a ceremony of such importance on a spot which is associated in so many ways with more than one of my predecessors, and with events and personages of interest in the annals of our country. I pray that the Almighty will bless this cathedral and all the work of religion and good influence of which it will be the centre.

The "Te Deum" was chanted, and a sermon was preached by the Bishop of London.

THE LIGHTING OF STREETS.

AT the convention of the Incorporated Municipal Electrical Association in Edinburgh, among the papers read was one by Mr. E. E. Hoadley, chief electrical engineer, Maidstone, on "Street Lighting." It dealt with the question from the point of view of a central station engineer, and was confined more especially to those problems which occupied the attention of an engineer in a town of moderate size, say 50,000 people. The three chief points to be borne in mind were:—(1) That the light given should be superior, or at least equal, to the existing lighting in the streets; (2) that the cost to the ratepayers should be very little, if anything, in excess of that already paid; (3) that the business should be done at a profit to the electricity works. The incandescent gas mantle having got over the troubles of infancy, became at once a serious and successful competitor of the carbon filament electric lamp, and for some time bid fair to monopolise what was commonly known as side-street lighting. A good many men would differ from the author on that point, but a special study of side-street lighting had convinced him that he had failed to show the average man in the street that as good a light could be obtained from the carbon filament lamp for the same price as from an incandescent gas mantle. The Nernst lamp, after many trials and partial failures, had survived, and while still imperfect, it was able to compete successfully with the incandescent gas mantle for the lighting of the less important thoroughfares. Maidstone was, the author believed, practically the pioneer of street lighting with Nernst lamps, and a good deal of trouble was taken in experimenting with the various types of lamps and fittings before anything like a standard was arrived at. The Nernst lamp was simply the principle of the gas mantle applied to electric lighting. To sum up the author's experience with Nernst lamps in a few words, he said the greatest fault he had to find with them was their want of uniformity. That was most apparent in the life of the burners, as although the average life obtained in Maidstone was 676 hours, yet they had had many burners in use for over 1,000 hours, and several between 2,000 and 3,000; equally they had had many which had failed before they had reached 100 hours' burning. The want of uniformity was also noticeable in the way in which the candle-power fell off; some burners did not appreciably drop for quite a long life, while others lost a great deal of their light-giving properties in a very short time, and would then last in that condition for a long while. As to the cost of lighting, as a result of a great many inquiries the author found that the annual cost per post for a gas lamp having a single mantle varied from 3*l.* to 4*l.* as a general rule, which price was inclusive of trimming and maintenance charges; he thought 3*l.* 10*s.* per annum an average figure. These gas lamps were generally placed at distances apart varying from 40 yards to 50 yards; thus the cost of lighting a mile of street would vary from 122*l.* 10*s.* to 154*l.* accordingly. An equally illuminated street could be got by means of ½-ampere Nernst lamps placed at a distance of 55 yards, although in Maidstone, as the existing gas columns were used, they averaged 50 yards, and the author hoped to be able to show that a ½-ampere lamp could be kept alight from dusk till dawn for 3*l.* 10*s.* per annum. Personally the author considered the Nernst lamp, although still far from perfect, to have been the saviour of the side-street lighting business for the electrical world. The chief improvements he would suggest in its manufacture were—that the burner should be made a more mechanical job, and that the actual filament when broken should be capable of easy replacement by the user at a cost of a few pence, instead of, as at the present time, the whole burner, including the heating coil and its supports and connections, being thrown away, at a cost of nearly 2*s.*

Mr. G. Wilkinson said that at present the only weapon electricity departments had with which to fight the incandescent gas lamp was the Nernst lamp, which was not yet perfect.

Mr. Stevenson said that in two side streets in Edinburgh experiments were being made with Nernst lamps. Hitherto the Gas Commissioners had had a monopoly of that class of street lighting, but he maintained that they might look forward hopefully to the success of the Nernst system. The type of Nernst lamp now being experimented with cost 2*l.* 5*s.* 1*d.* per annum, while the incandescent gas lamp cost 2*l.* 4*s.*, even after the Gas Commissioners supplied the gas at 2*s.* per 1,000 feet instead of the 2*s.* 5*d.* charged to other people.

Mr. Macpherson said he was by no means sure of the perfection of the Nernst lamp, which members of the Gas Commissioners at least said was totally unreliable. Why should they require to go to Germany for improvements in electric lighting? He hoped that before the Convention met next year someone would have invented a British lamp which would be a better lamp than the Nernst.

EARTHQUAKE MEASUREMENTS.

THE following notes are taken by *Indian Engineering* from a paper by F. Omori, member of the Imperial earthquake investigation committee, on observations on the Mitsubishi Bank, a large brick structure of three storeys, situated at Uvaku Cho, in the Kyobashi district, Tokio.

The measurements were made by means of two similar single component horizontal pendulum seismographs of the Ewing type, one set up on the basement and the other on the third floor, near the eastern wall, at a height of about 34 feet from the ground surface. The total height of the wall is about 51 feet, the brickwork at the first, second and third storeys being 3, 2½ and 2 bricks thick respectively. The ground is soft, the native rock being reached first at a depth of about 65 feet, the overlying strata being alluvial earth and clay, with layers of gravel and sand, covered with 3 to 7 feet of made soil. The section of the wall shows it to be supported on piles 21 inches to 24 inches long, carrying a concrete foundation about 10½ feet wide, the heads of the piles being a little above mean-tide level, and the basement floor about 11 feet above these, and about 3 feet above ground level. The basement floor apparently does not rest on the ground direct. The wall is pierced by large window openings, carries a pent roof, and has a projecting cornice at the top.

The two seismographs were oriented to record the E.-W. component of motion, the recording apparatus being started by an electric contact-maker, which a previous paper tells us must not be too sensitive, in order to exclude minor tumblings.

In the period from September 1902 to January 1904 thirty-five earthquakes were observed simultaneously on the third storey and the basement, of which three were weak or moderately severe and all the rest slight. The exact time of each is recorded at the central observatory, and seventeen of them are marked as "unfelt." The most severe had (at the central observatory) a maximum horizontal movement of 1.8 mm. with a time period of 0.7 sec. and a vertical movement of 0.4 mm. with a time period of 0.4 sec., and none of them were destructive.

The whole of the results of the observations at the basement and at the third storey are tabulated and compared; in five of the more severe cases only was it possible to identify any particular vibration in both the records. The general result shows that both the amplitude and time period were practically the same at both points of the building; this was also the case in the slight shocks with regard to the maxima observed on each occasion. The greatest amplitude actually recorded was 5.8 mm. at the basement and 4.42 mm. at the third storey, the periods being 0.98 and 0.71 sec. respectively, but in nearly all the other observations the difference was much less, and the average of all is practically identical.

These results again are compared with observations on two other buildings, classed respectively as very bad and ordinary, while this building is good. In the first, a gable end wall of a two-storeyed building vibrated with a constant period of about 0.33 sec. irrespective of the period and amplitude of the ground movement, this being its own natural period, with the result that at a height of about 31 feet both the duration and amplitude of the movement were nearly three times as great as at ground level. This wall was intended originally as a bastion wall, but now actually forms the end wall of the building, about 53 feet high to ridge and 40 feet to eaves, 2½ bricks thick for ground floor, pierced by windows occupying about one-third its total length, and two bricks thick without windows in the upper storey. The foundations are about 6 feet wide, and as it is not far from the Mitsubishi Bank, the soil is probably similar.

In the second case the wall vibrated uniformly in slow-period earthquakes, but for quick periods the movement at the top was about double that at the base, though the period was the same. A very bad building is one whose walls are shaken by earthquakes always several times as much at the top as at the base; in an ordinary building this is the case only in violent earthquakes or those having a quick period, and in a good one the walls have the same motion as the ground in all cases. The damage to high brick buildings is generally limited to the upper storey, the lower parts of the walls remaining uninjured or only slightly cracked even when the walls of the upper part are knocked down and the roof falls in—a result due to the magnification of movement in the upper parts of the buildings.

The earthquakes observed in this case consisted essentially of two kinds of vibrations whose periods are respectively about 0.8 and 1.5 secs. with some slight movements having periods of 0.36 and 0.23 sec., and the periods are practically identical in the principal and the end portions of each earthquake.

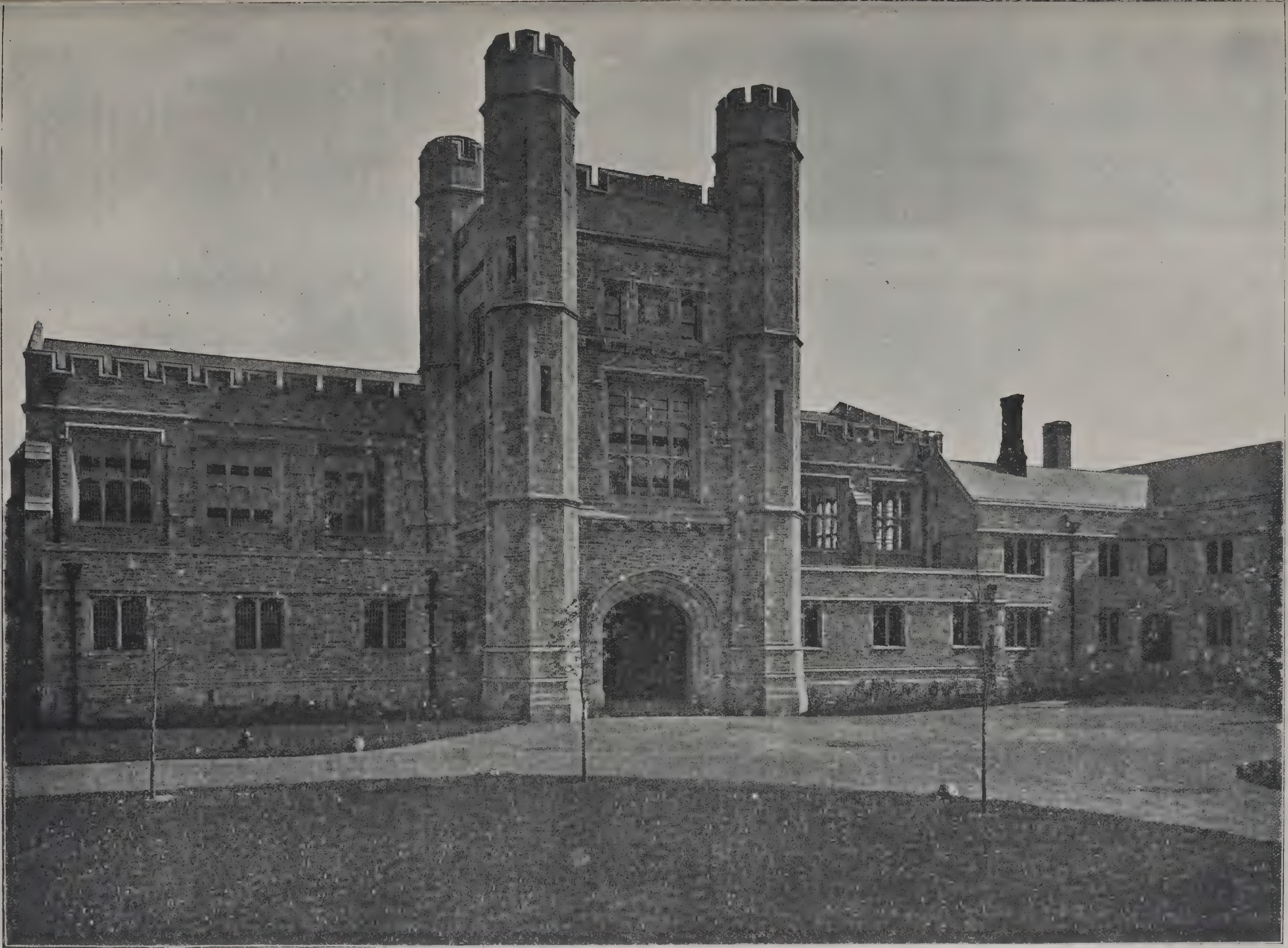
Where there is some depth of soft ground, as at the Mitsubishi Bank, the movement is considerably greater than where it is hard, as at the Seismological Institute, on the other hand, the vibrations are gentle and have a nearly constant period of 0.76 sec.

Some of the diagrams recorded are reproduced; a study of these shows the amount of care necessary for tabulation of the results. The two instruments do not start simultaneously, and the speed of the revolving drum, as shown by the time-marking apparatus, varies considerably at different times in the same record, so that no direct comparison between two records (except as regards maximum amplitude) can be made until the necessary corrections have been accomplish.

The paper offers no information as to the class of construction which will result in a *good* earthquake building.

INIGO JONES AND SCENE-PAINTING.

THE introduction of painted stage scenery in England is to be ascribed to King James I., who had already beheld the like in the spectacles at Holyrood. That monarch caused masques to be performed at his palace, in compliment to the nuptials of certain nobility of his court; a custom productive of much public good, by encouraging marriages among the young nobility, the best security for that dignified and virtuous conduct which regulated the households of our great families of old, and rendered the neighbourhood of a palace or of a noble seat desirable in proportion to the virtues of their lordly possessors. On occasion of the marriage of Robert, Earl of Essex, with the Lady Frances, daughter of the Earl of Suffolk, a Hymenæi, or solemnities of a masque, was performed at court on Twelfth Night, anno 1606. In this piece, which was written by Ben Jonson, Master Alphonso Ferrabosco sung, and Master Thomas Giles was ballet-master, as he "made and taught the dances." Inigo Jones, the renowned English architect, designed the scenery and machinery for the stage on which these little elegant amusements were performed, and that they were designed with taste and skill may be reasonably inferred, for the masque presented on the creation of Henry, Prince of Wales, June 5, 1610, written by Daniel, appeared to owe so much to scenic decoration as to induce the candid author to announce that "the machinery, and contrivance, and ornament of the scenes, by Master Inigo Jones, made the most conspicuous part of the entertainment." This masque was entitled the "Queen's Wake." Three years subsequent to that period, on the marriage of the Count Palatine of the Rhine and Elizabeth, daughter of King James I., a masque was performed at Whitehall, composed by Chapman, a dramatic writer of eminence, and contemporary of Shakespeare. The merit of the father of English scene-painting, for his share of getting up of the piece, is thus set forth :—"Invented and fashioned by our kingdom's most artfull and ingenious architect, Inigo Jones." This superb exhibition was provided in compliment to the royal pair, at the expense of the Societies of the Middle Temple and of Lincoln's Inn, at the cost of £2,400, and performed at court.



From the American Architect.]

THE GYMNASIUM, PRINCETON UNIVERSITY, PRINCETON, N.J.

(Messrs. Cope & Stewardson, Architects.)

NOTES AND COMMENTS.

A case has just gone before the Scottish courts in which a coalmaster sought to recover 457*l.*, the sum he paid for five pictures which he purchased in January, 1901, on the assumption that they were genuine works by John Phillips, R.A., Gainsborough, Verbockhoeven (two) and Ten Kate. He kept them until July, 1902, and then "it came to his knowledge" that they were not genuine works, and he asked the vendor to refund the money paid for them. The latter denied having given any warranty, and, indeed, it is difficult to realise how such documents could be given unless in exceptional cases. One judge said one picture was warranted which cost 150*l.*, and gave a decree for that amount. Another judge said all the pictures were warranted, and the whole of the money paid should be returned. In the Court of Session, or, as we would say, the High Court, it was declared there was no warranty, and gave judgment for the vendor. We do not see how northern logic, excellent as it is, could help arriving at different conclusions in such a case. Indeed, it is so difficult even for experts to declare whether a picture is genuine or the reverse, the wonder is that the trade in Old Masters survives. Simultaneously with the Scotch case another was heard in Paris with an army of experts as witnesses, and with no better result. Works ascribed to Diaz, Rousseau, Daubigny, Troyon, &c., were seized on the ground that they were all forgeries, but the witnesses were at variance. The trial was more amusing than any farce if it were not for the appearance of M. Willette. One of the pictures seized bore his name. He declared to the tribunal that after twenty years' constant labour he was unable, owing to the forgers, to earn enough to live on. Anyone, he said, could buy a picture bearing his name for ten francs, and when he offered one of his own works he was laughed at. The forgers and dealers had ruined him, for his name was made ridiculous. Fortunately for the majority of the artists whose works are simulated they have departed for a region where, it is to be hoped, there is freedom from clever imitators.

It is reported by the authorities of the Mint that the new seals required by the accession of the King have been completed. The design is by the late engraver to the Mint, Mr. de Saulle, and the wax models are by Mr. Frank Bowcher. The seal of the United Kingdom shows His Majesty as seated on a throne, crowned and wearing royal robes and the Garter. On the right is a figure of Commerce and on the left Justice. Behind are figures of St. Michael and St. George. The King is represented on the counter seal as mounted on a horse and garbed in the royal robes. The counter seal for Ireland corresponds, except that a crowned harp is introduced. On the counter seal for Scotland are the royal arms of Scotland. Colonial seals have also been prepared.

A room in the Louvre was opened on Monday by the French Minister of Public Instruction which contains the results of the exploration of M. de Morgan in the East. It will form an admirable supplement to the treasures from the palace of Xerxes, which is due to the enterprise of M. and Mdme. Dieulafoy. M. de Morgan had been long engaged in Egypt before he was entrusted with the investigation in Persia. He was able, in the first place, to make an admirable arrangement with the Government, for, instead of delivering up his discoveries and allowing Frenchmen to be satisfied with casts, all that has to be done is to pay over the value by weight of any works in gold or silver which were met with. He has confined himself mainly to the country belonging to the Elamites, which was turned into a desert by the Assyrians. The objects now in the Louvre consist of statues, stèles, columns, figures of animals, bas-reliefs, jewellery, &c. One stèle, which is at least 6,000 years old, has a representation of a king pursuing his enemies in a mountainous region. There is a great bronze statue of a queen, but it is headless. The most general interest will be attached to the block of diorite, about two mètres in height, which is supposed to be inscribed with the law of the Sun-god by Hammourabi. He was one of the strictest of legislators, and adopted an eye for an eye system. If, for example, a house fell and killed the son or a slave of the owner, the architect of the building was compelled to make compensation with the life of his own son or a slave. If a man broke into a house he was killed and buried in front of the breach he made. If during a fire a thief was caught stealing, he was cast into the flames. Lex talionis was never more rigorously carried out than in the land which M. de Morgan may be said to have revealed.

ILLUSTRATIONS.

CATHEDRAL SERIES.—WAKEFIELD: CHANCEL AND NAVE FROM EAST END.

ADDITIONS TO ALVERTON, TRURO.—SOUTH FRONT—WEST FRONT.

NEW SYNAGOGUE, BRONDESBURY—INTERIOR.

This synagogue was commenced the latter end of May, 1904, and was consecrated on April 9 last. It occupies an open site at the corner of Chevening Road and Carlisle Road, with frontages of 148 feet and 124 feet respectively. The building is well set back from the road and is approached by a carriage drive from the Chevening Road. A broad flight of steps leads to the atrium. From the atrium three wide entrance doorways open to the vestibule and floor of synagogue; right and left of the atrium side entrances lead to staircases giving access to the ladies' galleries. The interior of the synagogue is divided longitudinally by octagonal iron columns into nave and aisles; these columns support the galleries, superimposed columns carry the horseshoe arches above the galleries and the coffered waggon-headed ceiling and roof. At the eastern end are situated the almemar and ark (containing the scrolls of the law), approached by double flights of steps with a spacious choir gallery above the ark. Ample provision has been made for quickly clearing the building by exit doors and staircases at all four corners. The vestry and secretary's offices form a separate wing on the north side. The formation of the site has allowed of a lower ground-floor with spacious schoolroom, accommodation offices, cloak-rooms, &c., with an additional entrance from Carlisle Road.

The seating for 398 males and 344 females in the galleries has been specially designed and is executed in Orham work, a material very much resembling oak. Natural ventilation has been adopted, and the heating is by hot-water pipes and radiators on the low-pressure system. Electric lighting is installed throughout. The general design of the building is Moresque in treatment, adapted to modern requirements, with two imposing towers flanking the entrance, surmounted by copper domes and finials that act as lightning-conductors.

The general contractors are Messrs. F. Gough & Co., of Hendon. The heating is by Messrs. Burroughes & Sons, the electric lighting by the Electrical and General Engineering Company. The Bennet Furnishing Company have supplied the seating, Homan & Rodgers the steel construction, the Crittall Manufacturing Company steel sashes, J. M. Boekbinder fibrous plaster, Arrolithic, Ltd., terrazzo paving, B. Finch & Co. sanitary fittings, the Coalbrookdale Company wrought-iron work, Ewart & Son the copper domes, and E. J. Prest & Co. the stained glass. The whole has been designed and carried out under the superintendence of Mr. Frederick W. Marks, F.R.I.B.A., architect, of 3 Staple Inn, W.C.

FLATS.

A DISCUSSION on "Housing in Mansions Let as Flats" was held at a meeting of the Sanitary Institute on May 8.

Dr. Louis C. Parkes, M.D., D.P.H., Medical Officer of Health for the metropolitan borough of Chelsea, and Consulting Sanitary Adviser to H.M. Office of Works and to the Metropolitan Police, opened the discussion. He said:—Owing to the increased value of land in nearly all parts of the Metropolis, and the heavy ground-rents now exacted, small buildings housing comparatively few persons are no longer remunerative, and cleared land is being covered with large buildings of high rental value. Only a few very wealthy people can afford to occupy large single mansions with high ground-rents, so that it is now becoming more the custom with estate companies and builders to erect blocks of mansions let in flats, which provide accommodation in parallel layers for separate families, so that a high density of population is obtained, and the cost of the land and building is distributed amongst a large number of tenants.

These flats at the best supply only a limited amount of accommodation, and are suitable for small families; but owing to the reduction in the birth-rate amongst the middle and upper classes, as compared with what prevailed in early Victorian times, small families amongst these classes are now rather the rule than the exception, and in consequence flats supply the kind of house accommodation which is most in demand. The effect of the lowered birth-rate is seen also amongst the lower middle classes and amongst the higher grades of the working-class population, for industrial and municipal dwellings make practically little or no provision for large families, and yet the demand for tenancies in block dwellings is largely in excess of the supply.

In Chelsea, of which I am the medical officer of health, the Borough Council has recently erected five blocks of dwellings for artisans, or industrial dwellings, and they have been taken up very quickly. No sooner were the dwellings ready than they were occupied by tenants, and now there is no accommodation available. Hundreds of people have put down their names to come in. These only contain rooms for quite small families. The large tenements only contain three rooms, providing accommodation for five or six persons. I think that shows how very largely now small tenements are required for persons of the working class having small families.

There can be no doubt then that an increasing proportion of the metropolitan population is living under circumstances of somewhat close crowding combined with limited accommodation; but this is not principally because these people are obliged to live under these conditions, there being no other kind of house available, but because the conditions of society are altering, and the flat mode of living complies with the altered conditions. How far the increased costs of land and building are factors, and possibly important factors, in the production of a lower birth-rate and the limitation of the size of families is another matter, and its discussion would require a large amount of time. My own impression is that the two subjects are very intimately connected, and that the failure of the central portions of London to increase in population by excess of births over deaths, which has been a conspicuous feature of the recent census enumerations, is largely affected by the increasing pressure of rentals.

Density of population on area was thought by the late Dr. Farr and other early pioneers of vital statistics to be an essential cause of unhealthy conditions and of a high death-rate. At the time of Dr. Farr's writings it probably was so; but now, with the great advances that have been made in the science of domestic sanitation, it is found possible to house large numbers on a small area under perfectly healthy conditions (so far as such conditions are obtainable under the circumstances of urban life) that would have appeared incredible to the early observers. Industrial dwellings for the working classes house people at the rate of 1,000 per acre, and yet their death-rates are actually lower than those of people of the same class who live in the ordinary two or three-storey tenement houses, where the density of population is very much less. An equal amount of crowding is probably to be found in many of the blocks of residential mansions for the middle classes, which are now so evident in all parts of London, and so far there is no record of such habitations being unhealthy.

It is probably too early as yet to accept without qualification the statement that crowding has no effect on the health and life of the crowded population. There may be tendencies amongst these people towards slowly advancing degenerative changes, which, at present imperceptible, may appear not in this but in subsequent generations, so that generalisations, in the absence of sufficiently extended observations, should be avoided.

Apart from the question of crowding, the aspects of flat life that are most suggestive of unwholesome influences are those arising from the necessity, in the erection of this class of dwellings, of constructing enclosed areas or courtyards from which the inner rooms derive all their light and air supply. These inner rooms are very largely utilised as servants' offices and bedrooms, whilst the rooms facing streets or other open spaces are the living rooms and bedrooms of the tenant and his family. The air of these courtyards and shafts is sunless and stagnant, and it might be supposed that the occupants of these rooms are not living even under such good hygienic conditions as prevail in the ordinary London single house, where the servants' offices are in the basement and their bedrooms in the attics. My observation, however, leads me to believe that the unhealthy conditions appertaining to these shut-in rooms of flats are to some extent mitigated by the fact that the windows of the rooms are much more commonly kept open, even in cold weather, by the servants who occupy them, than in the case of the ordinary London house. The necessity for air is no doubt felt; and as the wind is prevented from blowing directly in, there is less fear of cold currents and draught than in the case of rooms with windows facing directly into large open spaces. A very serious disadvantage of the stagnant air supply is that odours escaping from dustbins placed at the bottom of the shaft, and vapours from cooking and cleansing operations carried on in the rooms looking into the shaft or courtyard, tend to diffuse themselves and penetrate into all the rooms above the point at which the smells are evolved, with the result that there is always a taint in the air and the air is never really fresh. I believe that domestic servants are not, as a class, particularly enamoured of service in flats. They are more isolated from the external world than in the ordinary London house, and life is no doubt duller; but the life in rooms which have no view except a blank wall a few feet away, which have an air supply which is not always pleasant to smell and is never really fresh, and in which there is a deficiency of daylight, meaning long hours daily of artificial light from November to March, is not exactly life under ideal conditions, and it is not to be wondered at that men and women who have spent their early life in country cottages or small suburban houses are averse to domestic service under such conditions.

The occupiers of flats (the tenant and his family) are usually free from the depressing conditions which are considered sufficiently good for the servants. Most of the rooms they occupy are light and well ventilated, as they occupy the external positions on the more important front and back faces of the building. The rooms are found to be warm and of equable temperature in winter, as the walls are warmed by the number of flues running up them from the various flats; in summer the size of the building and the thickness of the walls prevent undue heating by the rays of the sun unless the flat happens to be in the roof. There is a considerable saving of energy in having all the rooms on one level, and there are no staircase and landings to clean, so that fewer servants are necessary in a flat than in an ordinary house. The tenant of a flat has also other advantages. He can go away and shut his flat up, leaving it in the care of the hall-porter, and, as he pays rates and taxes in a lump sum with his rent, he is saved the bother of attending to a number of small demands from rating authorities, and he can view with equanimity the colossal rise in the rates of his borough, at any rate, until the termination of his lease, when he commences negotiations with his landlord for a renewal.

From the public point of view there is perhaps another aspect to this question, as there can be no doubt that the apathy of the London public in regard to the increase of rates is greatly due to the fact that large masses of the population never really feel the direct pressure of the rates. They are either working-class people who pay rates as part of their rent to the landlords of the tenements they live in, the landlords of this class of property compounding for the rates and getting a reduction from the local authorities, who find it better to give a discount to the landlords and so save themselves the burden of collection from the individual occupiers of tenements; or else they are people who live in flats and have leases or agreements with the owners of the mansions they live in, which prevent them from troubling about rates so long as the leases or agreements are in force. If a new law was passed requiring every occupier to pay rates direct to the rating authority, and rendering illegal the compounding for rates by owners of tenement property, a more effectual step towards economy in municipal expenditure would have been taken than all the outcry in the public press and the speeches of social economists in or out of Parliament amount to.

We may conclude, then, that if flats are an evil they appear to be a necessary evil, their growth in London being dependent upon the increase in the value of land in nearly all residential districts. It is a somewhat curious consideration that the growth and improvement of yet another modern luxury, the motor-car, will probably be effective in time in providing an antidote for the continually ascending price of land. When people can travel at great speed and with every comfort from different parts of Surrey, Middlesex, Essex and Kent into the centre of London, can transact their business and their pleasure in town, and return home again in the same time as it now takes an omnibus to travel from the Bank to the Marble Arch, the attractions of the West End will be considerably diminished as a residential neighbourhood. Already there are signs of this latest development in the fact that West End houses are becoming more and more difficult to let for the London season, because the wealthy classes prefer to take houses in the country around London, where they have week-end house parties, and from which they can visit London in their motor-cars with as much ease as if they lived in Belgravia. With private motor-cars for the wealthy and prosperous classes, and with electric railways, tube railways, electric trams and motor omnibuses for the ordinary citizen, who will care to live in central London, with its enervating smoke-laden atmosphere and its perpetual noise, rattle and worry? Cheap and rapid transit from the periphery to the centre is the key to the housing problem, whether of rich or poor; and the inflated price of London's surface area must give way before the advance in the science of rapid transit, of which we are witnessing the dawning era.

One other matter I may refer to: the question whether infectious diseases are more prevalent amongst people living closely together in flats and industrial dwellings than among people living under ordinary conditions in single houses. I am bound to say I think they are not. Attention has been given to this matter by several people besides myself, and I do not think there is any evidence to show that the ordinary infectious diseases, such as scarlet fever, measles, whooping-cough, diphtheria, enteric fever, or any other infectious diseases are more prevalent because people happen to be rather crowded together. It might be thought that with people living on a common staircase that a number of families might be infected perhaps by one tenant having measles in his family on the lowest floor, and that the infection might travel up the staircase and so infect other tenements. But it does not appear to be so, and it is probable that infection travels very much less by means of infected air in that way than was originally supposed. At any rate, so far as I am able to say, I do not see any reason to believe that infectious diseases are at all increased in prevalence or fatality by reason of people living on crowded areas in industrial dwellings or in residential flats.

Mr. W. Rolfe, architect, said:—The subject for discussion, "Housing in Mansions let as Flats," which I am privileged to bring before you this evening in the form of some notes, concerns a gradual development of this class of building during the past thirty years; not carried out systematically, as in Paris or Berlin, and certainly not with the rapid growth of New York, but rather by the adaptation of sites from time to time as separate buildings, and not built in sequence in new thoroughfares. Had Wren's or other more recent street arrangements been carried out, London to-day probably would not contain whole streets of this class of buildings.

The question is, Does this housing of residents in flats meet a want, a want of a proportionate part of those residents who will live in central positions? Are these large blocks likely to retain tenants, not only to-day, but in the near and distant future?

For purposes of this discussion attention may profitably be confined to a radius of, say, one or two miles from Charing Cross; not to the avoidance of such districts as Kensington, but because the wisdom of housing in flats at Hampstead and such places has yet to be proved.

Flats in the best positions should realise rental values of from 800*l.* to 80*l.* per annum. The first should have ample accommodation for servants, and the second accommodation for a single or two persons.

The site for such buildings should be central. Many who select such residences keep no conveyance, prefer to be near omnibus, tram or tube, do not entertain much at home, and regard distance from places of entertainment as an important factor. The number of rooms required is a known quantity, the number of servants, &c.; and this, notwithstanding the drawbacks of musical instruments overhead, the occasional rumble of the lift, or the vibration in these tall buildings from passing heavy traffic.

In the selection of site crowded situations should be avoided, *i.e.* positions where sufficient outlook, rear space and middle areas cannot be provided. The value of land and accompanying heavy ground-rent in the best positions tend to crowding too much building on a limited site. Positions at the corner of two streets are good; better still where a building fronts on a street and has its rear on an open square or garden. Points essential to healthy buildings of this class are sunny aspect, good rear space either garden or an extent equal to height of building, middle courts or areas in full compliance with London Building Act, and with windows of B.P., lavatories, bath-rooms, scullery, larder, &c., but not living-rooms looking on to same.

The main features of flats as residences are a maximum of accommodation in a minimum of space, usually arranged on one level, and the more general plan adopted is that of a suite on each side of the stairway, *i.e.* two flats on a floor.

The principal entrance to the building should be central, with good hall, which should be carpeted and furnished and have a fireplace. This hall should be an important feature; the stairway from same should be wide and well-lighted and carpeted. This is also used for furniture. The decorations of hall and stairway should be suited for wear and of a durable character. The passenger lift, worked by electricity where practicable, should be roomy and with a seat for at least one person, with top light and means of egress at top, fitted with its own closing gate (not door); lift, when working in well of stairway, should be carefully enclosed, and the entrances at each upper floor should have folding-doors or collapsible gates.

The landings of stairs on each floor should be roomy and well lighted, with space for approaching the lift and the entrance doors of flats: the stairway should be carried right up to roof flat, with door at finish.

The accommodation provided in a flat, which will vary necessarily according to position and rental value, should consist of a hall, large or small, with fireplace and space for furniture, and with outside window; reception-rooms of good size, the dining-room sufficiently wide to pass round table; corridor leading from hall, with bedrooms off same, one bedroom to be a good one, with good outlook, bathroom and one w.c.; a store and wine cupboard, the kitchen, approached from its own passage from hall or across pantry, in any case provided with swing door, and with outside window looking into open space, and not into enclosed middle area; a scullery in some cases, and in others a scullery recess in kitchen; a larder with outside window; a w.c. opening off the passage; a pantry, though small, for washing glass and cleaning plate, which is quite as necessary as scullery.

Certain additional accommodation for servants should be provided in highly-rented flats, for maids in bedrooms on top storey, and for men in the basement storey.

The tradesmen should have an approach (as a rule) away from the principal entrance to the building, with ready access to goods lift, and with speaking tubes to each flat, not a back stairs, which is a nuisance in most cases and only a necessity in few cases. The goods lift should be worked by electricity, and strong enough to move half a hundredweight.

The system of drainage should provide that where practicable all pipes are accommodated in the middle area or side areas, with free access to foot of each pipe, connections from same to manhole or manholes, and thence direct to sewer, opportunities for cleaning and flushing at all points, and all vertical pipes carried upright above roof, scullery wastes in particular.

Apart from other reasons of objection to flats over shops, there is great difficulty in providing good drainage. In such cases the basement of the building should belong to flats and not to shops.

Glazed stoneware pipes in concrete should be used in preference to iron pipes, interior of manholes should be of glazed ware, traps at foot of scullery and bath wastes should be small, with ample opportunity for frequent cleansing.

Dustbins of galvanised iron fitted with covers should be kept in the open air, and dry refuse should be separated from the wet. Both should be burned or frequently removed.

The fireplaces in a flat are usually too large and rooms overheated in consequence; they should be provided with blowers and fresh-air intakes and good close-fitting registers to counteract the trouble of down-draught and back smoke.

The windows of rooms in all cases should have the head as near the ceiling as possible; sashes are to be preferred as best for ventilation and cleaning, but special ventilators into separate flues are doubtful, as the fog is drawn down same.

The construction of floors should be of concrete encasing the steel joists, with a space between underside of concrete and plaster ceiling, and a space between upper side of concrete and wood floor. The points are to secure fire-resisting and sound-proof construction.

The fire-escape stairs should be solid, and formed as part of the building; open iron stairs are used, but are questionable in case of panic.

Some of the details which assist in the comfortable working of this class of building are the proper "calls" from each flat to the entrance hall, &c., including the telephone, the proper installation of bell and electric wires; the providing of access to all main pipes and wires, usually on or near the stairway, the use of white glazed material for areas and as wall linings to kitchen, pantry and lavatories, not omitting the careful selection of decorations to assist the light of the rooms as well as decorate them.

It is rather difficult in offering a few notes as to the arrangement of a building to cover the ground sufficiently, because there are so many varieties of flats. I have confined my remarks to those within a radius of two miles of Charing Cross, because it is doubtful whether the flats at Hampstead or Hammersmith, and other similar districts, will not go empty. I think they have been overbuilt already. But flats in central positions are better fitted to suit the wants of those who choose to live in flats, and they will continue to live in them in central positions, provided the accommodation is good. But I should say there are some five out of seven buildings of flats in London that should not have been built at all. I do not think the tenancies of them will keep up. The fault has been that directly a piece of land has become vacant or an estate at liberty, it has been the custom to say, "Oh, that will do for flats," so that although there has not been exactly a fashion in flats, there has been a tendency among builders to put up flats almost anywhere.

The discussion was continued by Dr. J. F. J. Sykes, Mr. Francis Hooper, Professor Kenwood, Mr. G. H. Turner, Mr. E. White, Dr. Cowburn and Sir William Emerson (chairman) whose remarks are printed in the *Journal* of the Royal Sanitary Institute for July.

INDUSTRIAL SCIENCE.

A PRELIMINARY report of the departmental committee on the Royal College of Science and Royal School of Mines, South Kensington, addressed to the Marquis of Londonderry, K.G., president of the Board of Education, has appeared. It says:—

We, the departmental committee appointed by your Lordship in April to inquire into the present and future working of the Royal College of Science (including the Royal School of Mines), and into questions connected therewith, have the honour to submit a preliminary report.

I. In conducting the inquiry referred to us we have held seventeen meetings, at which we have examined twenty-one witnesses, the remainder of the time having been devoted to consideration of the information thus supplied to us.

The evidence which we have received has been largely concerned with the history of the Royal College of Science (including the Royal School of Mines), with the character of the instruction now given therein, and with the possibility of attracting students more advanced in their education than the majority of those who now seek admission. On this branch of our inquiry we should be prepared to submit recommendations which we think would conduce to increase the great usefulness of these institutions, even though conducted in the main upon their present lines; but we have thought it desirable to defer making such recommendations at the present time for reasons which we will now proceed to state.

II. It will be remembered that the terms of reference to the committee were as follows:—

"To inquire into the present working of the Royal College of Science, including the School of Mines; to consider in what manner the staff, together with the buildings and appliances now in occupation or in course of construction, may be utilised to the fullest extent for the promotion of higher scientific studies in connection with the work of existing or projected institutions for instruction of the same character in the Metropolis or elsewhere; and to report on any changes which may be desirable in order to carry out such recommendations as they may make."

We recognise the admirable work accomplished by the Royal College of Science, not only in training teachers, but in its general method of science teaching and in the promotion of research. Notwithstanding the marked increase in the number of institutions where teachers of science can be trained, the demand has also so increased that the need for teachers of science who have been well trained in scientific method is no less now than when the College was established as a normal school of science. At the same time it is agreed that there is an urgent national necessity for increased facilities for advanced instruction and research in science, especially in its application to industry. In view of this fact, and in view of certain munificent offers of aid towards the provision of such facilities in London, we have felt that it was necessary, in order to discharge the reference to us, to survey the resources available for, and the potentialities of, the principal existing and projected institutions of the character contemplated in our terms of reference. We have now proceeded far enough in this survey to satisfy ourselves that the moment is *prima facie* opportune for a comprehensive scheme. The accomplishment, however, of such a scheme as we have in mind can only be brought about by the realisation of the offers of aid which are referred to above, and by the co-operation of certain influential bodies possessing an interest in such institutions as are dealt with in our proposals.

It has, therefore, become necessary for us to approach these bodies and the persons who have made these munificent offers. But before we proceed any further in this direction we feel that our position would be strengthened if we could be assured that our proposals will meet with the approval of the Government, and we have accordingly decided, in view of the stage at which we have arrived, to present this preliminary report, in which we outline the scheme we think desirable, and specify the conditions which, in our opinion, would make it possible.

III. The conditions which, if fulfilled, would, in our opinion, insure the success of the scheme are:—

1. The gift of a large capital sum (say not less than 100,000*l.*) for buildings and initial equipment.
2. The gift of a considerable additional site (say not less than four acres) at South Kensington.
3. The willingness of the Board of Education to allow their college at South Kensington to be brought into a scheme of common government and administration.
4. The similar willingness of the City and Guilds of London Institute in respect of their college at South Kensington.
5. The continuance of the Government contribution, including the necessary provision for the maintenance of the new laboratories and other buildings of the Royal College of Science, now approaching completion.
6. The continuance of the support given by the Corporation and Livery Companies of the City of London to the Central Technical College.
7. The provision (in the proposed College of Applied Science at South Kensington) of instruction in certain departments of engineering either by new foundation or by transfer and enlargement of part of the work of some existing college or colleges (*e.g.* University College or King's College).
8. The co-operation of the University of London.
9. The assurance of a sufficient maintenance fund.

NOTE.—For such a maintenance fund we look to the following sources in addition to those mentioned above under headings 5 and 6.

(*a*) Any grant from the vote for university colleges to which the Institution may be able to establish its claim.

(*b*) An annual grant from the London County Council.

(*c*) The Bessemer Memorial Fund (so far as not applied to capital expenditure).

(*d*) Fees of students.

(*e*) Endowment of special forms of instruction given by persons or bodies interested.

(*f*) Any portion of funds given for special purposes which may remain available for income after the necessary capital expenditure.

IV. Given the fulfilment of the above conditions, we should be prepared to recommend such a scheme as is indicated in outline in the following paragraphs :—

1. In considering the problem laid before us by the Government, we are impressed by the fact that the most urgent need in scientific education is the establishment of a centre in which the specialisation of the various branches of study and the equipment for the most advanced training and research should be such as ultimately to make it the chief technical school of the Empire.

So large a scheme cannot be carried out in a day, but we believe that the present is a favourable opportunity for making a beginning, and in the suggestions which follow we have kept the above end steadily in view. The existence of the Royal College of Science with the Royal School of Mines and of the Central Technical College in close proximity points to South Kensington as the best position for such a centre as we contemplate; and we have made careful inquiry as to the extent of the accommodation which is at present concentrated in that neighbourhood. It is as follows :—

Accommodation for about 200 students in the permanent part of the existing buildings of the Royal College of Science and the Royal School of Mines.

Accommodation for from 300 to 350 students, including accommodation for work for about 100 advanced students in the physics and chemistry laboratories in the Royal College of Science, now approaching completion.

Accommodation for about 300 students in the existing buildings of the Central Technical College.

With the exception of the new laboratories of the Royal College of Science, these buildings are fully occupied by students, but the accommodation for mining and metallurgy is quite inadequate, and is to a great extent merely temporary. Further, the accommodation for engineering, whether in the Royal School of Mines or in the Central Technical College, is insufficient to meet the wants of many qualified students who are annually refused admission for want of space, and in no branch of applied science is sufficient provision made for advanced or specialised work.

There is no doubt that if arrangements could be made between the Government on the one hand and the City and Guilds of London institute on the other, the resources of the above-mentioned institutions could be used with far greater effect and economy.

2. The buildings and equipment, even if such arrangement were made, though in many respects excellent and extensive, are quite inadequate for existing requirements, and still more for the purpose in view. The provision to be made for the future should include not only a fully developed school of mining and metallurgy and departments for the principal branches of engineering, but also for other special subjects.

We do not attempt in this preliminary report to draw up a detailed scheme, but the following principal subjects should be within the purview of the Institution :—

As preparatory subjects—mathematics, physics, chemistry and geology. Under the general heading of civil engineering—works of construction, mechanical engineering, electrical engineering, mining engineering, marine engineering and naval architecture. Some branches of chemical technology, and certainly metallurgy.

As illustrations of the kind of higher or more specialised application of these subjects, some of which we suggest should be dealt with, we need only mention the applications of engineering to railway, dock and hydraulic work; the development of electricity in the direction of electric traction, lighting and telegraphy, and electro-chemistry. It would be impossible to provide for the whole of the above subjects at once. Some of the more specialised subjects, such as the advanced metallurgy of iron and steel, and certain branches of manufacturing chemistry would probably be better dealt with in institutions which are, or may be, established in the provinces. Even, however, if the scheme be restricted by the exclusion of such subjects, its realisation would require at least the whole of the site still available at South Kensington, and great advantage would be obtained by grouping the first extensions immediately round the nucleus provided by the Royal College of Science and Central Technical College.

We believe, however, that if the various London institutions concerned were willing to co-operate fully in the matter, and proper arrangements were made for co-ordination of the considerable resources already existing, the necessary special departments might be established early.

It is quite compatible with an effective realisation of the scheme that separate departments might be conducted in detached colleges.

In view of the terms of reference, we have given special consideration to the provision required for higher education in mining and metallurgy, and we are satisfied that the maintenance of a fully equipped central School of Mines is desirable. While facilities for advanced instruction in coal mining and in the mining and metallurgy of iron are now available in some of the larger centres of those industries, it is important that there should be a central school affording a full course of instruction in the mining and metallurgy of metals produced in India and the Colonies, but not found, or not found in large quantity, within the United Kingdom. As London is the financial centre of many great engineering, mining and metallurgical industries in the Colonies, it is in the opinion of several witnesses the best site for a more highly developed School of Mines which shall provide for the needs of the Empire. It has been proved to us that the number of Englishmen who rise to important posts in connection with the mining industries of India, Australia and South Africa is less than is desirable.

We have for the present deferred consideration of the biological department of the Royal College of Science.

3. We consider that the advantages of the higher technical courses, which we contemplate at South Kensington, should only be available for students who can pass a satisfactory test for admission thereto. The preliminary science and such rudiments of engineering as may be prescribed for candidates before entering on these higher courses might be obtained either in the laboratories of the Royal College of Science and Central Technical College, or elsewhere in London or the provinces. Admission to these higher courses should be restricted to duly qualified students, who, it is hoped, would be attracted from all parts of the Empire.

4. We think it is important that the interests both of pure and applied science should be adequately represented on the body which administers the new Institution. It is of the first importance that there should be no divorce between teaching and research in technology on the one hand, and in pure science on the other, and we therefore regard it as an advantage that ample provision has already been made by the Government for the teaching of certain sciences on a site which we hope may be connected even more closely than at present with the highest and most specialised branches of technology. With regard to both subjects, we believe that it may be necessary hereafter to limit the instruction to the higher branches of both pure and applied science.

5. We do not contemplate that either the educational or financial administration of the Central College should be vested entirely in His Majesty's Government. Indeed, in the present case there is a special consideration which makes such an arrangement practically impossible. Our scheme, if carried into effect, will entail the hearty union and co-operation of several independent bodies in a common enterprise, and it would be an advantage to be able to accord to each co-operating institution an adequate share in the general control.

These considerations point to the creation of a Council representing all the large interests concerned, including, of course, His Majesty's Government, who must always remain by far the chief supporters of the Institution. We do not now enter into the details of an arrangement of the constitution of the Council, as such details will largely depend on the success of negotiations which must await the decision of His Majesty's Government on the outlines of our proposals as now submitted.

Should the above proposals be accepted it will follow that the State contribution to the Institution will take the form of an annual grant in aid, the governing body retaining the power to carry over any balance remaining unexpended at the end of a year.

V. We feel that we should not be justified in inquiring whether the Board of Education would be willing to give their support to the foregoing scheme, depending as it does on the fulfilment of all or most of the conditions previously mentioned, unless we had taken steps to ascertain what prospect there is of their being fulfilled. We have good reason to believe that private munificence is prepared to provide a capital sum in excess of the minimum which we consider necessary to a successful issue, and that the Commissioners of the 1851 Exhibition are prepared, with their accustomed liberality where the advancement of higher education is concerned, to make available for a scheme, such as we have sketched, the additional site which will be required. We also confidently look for the co-operation of the University of London. Further, although public bodies or local authorities which contribute largely to the funds of the proposed Institution may fairly ask for the reservation of some accommodation there for scholarship-holders sent to it by themselves, yet it would appear that a considerably increased income would be available for the support of such an Institution from the fees of fee-paying students. With this nucleus of additional resources thus provisionally secured, we feel justified in approaching the Board of Education. We accordingly desire to ask whether the Board are in a position to inform us (1) that, if it is found possible to establish a scheme such as we have sketched in outline, they will be willing to allow the Royal College of Science (including the Royal School of Mines) to be brought into it under a common government and administration; and (2) that the existing Government contribution to the support of these institutions will be continued under the new conditions on the scale already made necessary by the provision of the new laboratories of the Royal College of Science.

With such an assurance, and with such new resources as we have mentioned above, we feel that we could approach, with good prospect of success, other bodies whose co-operation we believe to be desirable, if not necessary, for the complete success of our proposals.

In conclusion, we desire to observe that absence of detail where it might have been looked for in certain portions of our proposals is not to be taken as meaning that we have not considered in some detail the ends which we wish to see attained. Our proposals at the present stage indicate only in outline what we have in view: how near an approach can be made to its attainment must depend on the resources which prove to be available, and cannot, therefore, from the nature of the case, be estimated with precision at the present time. Without, however, attempting now to exhaust the subject, we have submitted proposals framed in such a way as to suggest the establishment of an Institution which will be pre-eminent in its combination of advanced teaching in certain branches of applied science, with instruction in pure science also developed to a very high standard.—We have the honour to be, my Lord Marquess, your Lordship's obedient servants,

R. B. Haldane, Chairman.
W. de W. Abney.
E. H. Carbutt.
W. S. Church.
A. H. Leech.
Philip Magnus.
Walter McDermott.
Francis Mowatt.
F. G. Ogilvie.
Reay.
Arthur W. Rucker.
Sidney Webb.
J. Wernher.
W. H. White.
J. C. G. Sykes, Secretary.
F. E. Douglas, Assistant Secretary.

February 20, 1905.

SOUTH LONDON TECHNICAL ART SCHOOL.

In his report for 1903-4 to the committee of the City and Guilds of London Institute Mr. John Sparkes said:—The year at the South London Technical Art School has been remarkable in the fact that another Associate of the Royal Academy of Arts was chosen from among the old students of this school, viz. Mr. W. R. Colton, in March last. In the last six elections to the Royal Academy four have been sculptors educated in the school. Nothing approaching a success so remarkable had come within his experience, and he did not suppose it had ever happened before. Twenty years ago modelling schools were so few that only the largest schools in the country could afford the cost of maintaining them. Now, on the contrary, in London no County Council aided school is without one. The students must be a hundredfold more numerous at the present time than they were when the South London school came under the care of the City and Guilds of London Institute. The competition for place in the exhibition's galleries is naturally more keen from the numbers who compete—and yet the school keeps obviously to the front in the quantity and quality of the artwork exhibited at the Royal Academy and other galleries, and its members form the most important recruiting-ground for the associates of the highest academy in the land. That one-fifth of the whole number of works in sculpture were contributed by past and present students is but another piece of evidence of the same fact, that the South London School stands alone in the whole land as the training ground for sculpture and the plastic arts.

It is no extravagant assumption that at least two hundred capable men trained and educated in this school are at the present moment doing the best work in architectural sculpture in marble, bronze, silver, ivory, and the numberless other materials that is done in the country. It is impossible to follow them each in his particular department of art practice, but we know that this school through their means has brought about the present high standard to which English sculpture and the plastic arts generally have attained in England.

The monthly composition classes gather up the teaching in the other parts of the school and test the ability of the student to think out a subject for himself; he has the opportunity of hearing from his critics why his compositions are faulty and why they are good. In this way the student works out his mannerisms and ineffective ideas of subject or of decoration, and gradually comes to the instinctive sense of what is right in line, mass, light and shade, and proportion. When these qualities are attained he is the fully trained artist.

It is always a satisfactory test of the useful teaching that is given to find that no one who leaves the class is ever in want of employment. It is very pleasant to notice in what a considerable number of illustrated periodicals the names of old members of this class occur, and to note further how many are in the first rank as designers in figure illustration.

The decrease in the numbers of the day class is accounted for by the competition of the Lambeth School of Art, which, aided by the County Council, is able to offer teaching to its classes without loss to its committee. The class is, however, now closed for some reason, and the numbers in our school have advanced to their old level. The evening life class has slightly increased.

There was a distinct falling off in the attendance of students in the house decoration class. It is certain that the narrow views held on education by the average foremen do tend to prevent apprentices and learners from attending a class in which no secrets exist, and in which all that the teacher knows is frankly communicated to the pupils to their very great advantage. It has been most gratifying to know that so large a number of our house decoration students have attained the position of foremen and managers (or masters themselves), simply in consequence of their study having been entirely unfettered by any feeling of reticence as regards what are commonly called trade secrets, and this should be made known.

ANTI-BUILDING BY-LAWS.

By R. M. Lucas, F.R.I.B.A.

It is a good saying that "God made the country, man made the town." Unfortunately, however, man has had the making of by-laws for both.

For many years rural depopulation has been going on; and to the influence of cheap amusements, and that gregarious instinct under which persons of a certain cast of mind are exhilarated in proportion to the number of similar persons in their immediate neighbourhood, recent years have added a difficulty in obtaining country cottages. With the spread of railways and the consequent increase of opportunities of travel; with the gift of sufficient education to permit enjoyment of the myriad-editioned halfpenny papers; with the telegraph giving to town men the privilege of knowing of events which usually do not concern them in the least, and in which their interest is in the main artificial, a few hours earlier than village folk; with these and many other apparently great and real, but often not even real, attractions, men have been drawn in flocks from the fields. And now when they, grown old, or their children, townsated before middle age, have balanced up the quieter life and fewer wants of the country against the "advantages" of the town, and would with their labour and savings build a little homestead, humble but their own—they may not. The by-laws forbid it.

Precaution and Prohibition.

These by-laws are the natural progeny (being laws, and therefore legitimate, the adjective is unfortunately true of them in only one sense) of the Public Health Act of 1875; and, like many other evils, they are the result of well-meant efforts of law-makers who foresaw everything but the inevitable. No one who helped that Act into being imagined that in attempting to further good building it would prohibit rural building both good and bad, yet it would be but a slight exaggeration to say that in some districts it has done so. Where its stringent restrictions and extravagant demands are operative to-day, if a landowner wishes to house his labourers on his land he has to face a loss of between 2 and 5 per cent. on whatever capital he withdraws from his investments for the purpose, in addition, of course, to providing the site and perhaps a quarter of an acre of ground for a garden. So the landowner, unless feeling blessed with more than he knows how to spend—and very few men confess to that amplitude even in their hearts, I think—the landowner tells his labourers that they must go and live elsewhere. Hence the shrinkage of arable land and the growth of "cover." It is actually less expensive to allow an old cottage to tumble down and the tenant to go wherever he can—anywhere so long as he does go—than to rebuild under the by-laws.

This is partly because many of the most suitable building materials ready for use in the various districts, well understood and held in favour for centuries by generations of men who built homes for themselves and their heirs, knowing what would serve their purpose, are frequently prohibited. One might spend a lifetime in endeavouring to discover the reason for the various codes of by-laws thrust upon even one county; so great is their diversity that what is approved on one side of a lane is anathema on the other.

Lucky-bag Legislation.

Here, for instance, is a simple little problem to begin with. Why may a living-room be only 7 feet high in Twyford while it must be 8 feet high in Bitterne? Is it because Bitterne has by-laws and Twyford has not? Not a bit of it. Both these districts have the boon of by-laws, and, what is more, they received these remarkable specimens of official originality at about the same time. The gentleman who prepared them may have been under the impression that Bitterne men were a race of giants, or some tall friend of his may have been going to live there. Speaking generally, the rural district councils seem to have selected their by-laws with much the same foresight as a child uses in delving for toys in a lucky-bag—and with much the same result. The by-laws are mostly toys that, to the annoyance and despair of those who realise the evil, are in some districts being used and abused by officials as ignorant and unscrupulous as any that have been placed in public berths by good-natured voters, taking pity on their unfitness for the trades their parents and guardians tried to teach them.

Under a general profession of finality and perfection the by-laws of every district seem to have their own peculiarities, the product perhaps of original thought and research on the part of personages entrusted with a task about which they could at least claim to have thoroughly open minds, free from practical knowledge of a subject demanding the most whole-hearted study of a lifetime—the subject of building and the arts and sciences relating thereto. I remember seeing in a draft code of by-laws provisions made of floor beams up to such sizes as 24 inches deep by 18 inches wide—beams that, even if obtainable, no one would think of using nowadays. One such there is in Christchurch Priory, but then it was brought and hoisted into position by Divine power—at least, so it is said.

Fetters Forged by Ignorance.

As far as I am aware, too, besides asking for the use of impossible timbers, the by-laws say nothing about steel construction, except in so much as sometimes to give the rural surveyor a discretionary power, against the exercise of which Heaven defend us. Such trifles as girders are, of course, beneath notice; yet in some districts a builder is minutely directed on such details as the exact length of the nails he is to use for fixing slates. Elsewhere, and very commonly, concrete building is prohibited except in foundations, and unless the concrete be first made into blocks, in which form it is robbed of its characteristic tensile-strength, or unless made a third as thick again as a brick wall of similar height, which is peculiarly absurd, seeing that bulk for bulk concrete is actually stronger than brickwork. Concrete reinforced with iron, which I, for one, was using in the last century, is not known to by-laws as yet. Timber buildings, the pride of English country carpenters, are generally prohibited, being, no doubt, considered out of date. It can hardly be on account of the danger from fire, for where is the set of by-laws that prohibits internal partitions of wood supporting the rafters and boarding of a roof covered with lead, or top-lighted staircases surrounded by rooms, or wooden chimney-pieces?

No, one must build "of brick or of stone or of other similar material laid in horizontal courses" in most of those many districts where the intelligent "rural" councils have adopted "urban" by-laws.

Premiums on Overcrowding.

A very serious effect of the evil that has been partly brought about by the by-laws is that the want of new cottages and the cost of rebuilding old ones leads to disgraceful overcrowding and to families herding together in positively ruinous tenements. To watch his cottage fall down is often the only thing a landlord can afford to do. Take the case of a family paying 2*s.* a week for a cottage containing six low but fair-sized rooms which, though they have small windows, are sufficiently ventilated by their large flues and the doors of the living-room and kitchen opening direct into the open air. Let us assume that this cottage is, as is not uncommon, in hopeless structural repair, a hostage to tempest, the roof thrusting out the walls, the beam ends rotten, the brick foundations cracked and perished. What is the landlord to do? This cottage represents while tenanted a hundred pounds or so, for it brings him in a clear 4 per cent. The tenants grumble sometimes about the way the floors spring and the walls shake, but on the whole it is not really bad or unhealthy to live in. The day, however, comes when the landlord has to close the cottage as "unfit for habitation," and to decide whether he will give his tenants a new one or let them go. They beg him to rebuild; they have been born there; they do not want to leave their friends. The landlord undertakes to see what he can do. He inquires of those who have built.

The Landlord's Dilemma.

Later on, after considering the results of his inquiries, he diffidently asks his tenants if they can do with a room less and pay him three times the rent. Their answer may be guessed. It may reduce itself finally to an offer to do without the sixth room and to "try" to pay a shilling a week more. This is their extreme limit. The landlord, having to lose the hundred pounds his cottage has represented while "fit for occupation," is now invited to spend 300*l.* for a brick-and-slate "by-law" cottage that will bring him in a rent of three shillings a week. That is to say, instead of being able to maintain and re-establish his tenants and obtain a clear rent of 6*l.* (4 per cent.) a year by an outlay of 150*l.* invested in a cottage that could be built on the lines and partly out of the materials of the old cottage, he must either lose tenants and rent altogether or find and spend 300*l.* to get the magnificent return of 2 per cent., which is what the old rent plus the extra shilling a week would produce.

Can anyone wonder that landlords hesitate to build?

TESSERÆ.

Greek Perspective.

MERELY to observe the law of optical experience, that a thing in the distance appears smaller than one close at hand, is far from putting the picture in perspective. Perspective requires a single point of view, a defined natural horizon, and this was wanting in the old pictures. The ground plan in the pictures of Polygnotus was not horizontal, but the background was so raised that the figures which ought to appear to stand one behind another appeared to stand one above another. And if this disposition of separate figures and their groups was general, as we may conclude from the old bas-reliefs, where the hindmost figures always stand higher than the foremost, and look over them, then it is natural to suppose the same in Homer's description of the Shield of Achilles, and not unnecessarily to separate those of his figures which he allows to be combined in one picture. The double scene of the city at peace through whose streets moves the joyous procession of a nuptial feast, while in the market-place an important lawsuit is being tried, does not necessarily require a double picture; and Homer might well consider it as a single one, while he put before us the whole city from so elevated a standpoint that he thereby opened a clear view simultaneously both of the streets and of the market-place. Lessing considered that true perspective was accidentally introduced into pictures through the medium of scene-painting; and, although that was already in perfection, it could not have been so easy to apply the rules of it to a flat surface, since even in the later pictures discovered in the ruins of Herculaneum we find so many and such various faults of perspective as we should now hardly pardon in a beginner.

The Old English Hall.

The hall, with few exceptions, consisted of a lofty and undivided room, in form a parallelogram. There have been examples where the main body of the apartment had spaces on either side, resembling the design of a church, but they generally belonged to remote periods. Westminster Hall was anciently built on this plan. The hall of Raby Castle, which is elevated on a basement storey, is also an exception to the usual plan of placing this room on the ground floor. The wooden roof was perhaps the most prominent feature, from its altitude, and the highly enriched carved work, pendant corbels and other decorations which adorned the bold arches of the ceiling. The heraldic bearings of the owner were emblazoned at the summit; and the "top beam of the hall" was consequently a toast often drunk in allusion to him. A tier of windows ranged at some height from the floor, on one or both sides of the room, of which Crosby Hall and Eltham furnish respective examples. At the upper end of the apartment the floor was raised a step, which was called the daïs, or high place. On one or both sides of the daïs, according to the plan, was an oriel or bay window, which reached almost to the floor, had often several sides or faces, glazed, and was enriched with armorial bearings and other decorations, executed in stained glass. The daïs was designed for the reception of the master of the house and his chief guests, who sat at a table placed parallel to the wall. The Aubrey MSS. furnish us with the following descriptive passage :—"The lords of manours did eate in their great Gothicque halls, at the high table or oreile, the folk at the side tables. The meat was served up by watchwords. Jacks are but an invention of the other daye; the poor boys did turn the spitts and licked the dripping-pan, and grew to be huge lusty knaves. The body of the servants were in the great hall, as now in the guard-chamber, privy-chamber, &c. The hearth was commonly in the midst, as at colleges, whence the saying 'round about our coal-fire.' Here, in the halls, were the mummings, cob-loaf stealing, and great number of old Christmas playes performed. In great houses were lords of misrule during the twelve dayes after Christmas. The halls of justices of the peace were dreadful to behold. The screenes were garnished with corslets and helmets gaping with open mouth, with coates of mail, lances, pikes, halberts, brown-bills, battle-axes, bucklers, and the modern callivers, petronells, and (in King Charles's time) muskets and pistolls." The hearth was anciently placed, as stated by Aubrey, in the middle of the room, the faggots being piled against the reredosse, or fire-iron, and the smoke escaped through the louvre, a light open-work turret in the roof, which formed a prominent, and in most cases a highly ornamental feature in the exterior of the building.

Early Mosaics at Westminster.

The mosaics of Westminster Abbey were of two kinds, "Opus Grecanicum" and Opus Alexandrinum," the former being the glass-mosaic employed in the tomb of Henry III. and the latter the marble and porphyry work of the two pavements. The first stage of mosaic, it should be remembered, was when the practice was entirely Greek; the Greek artists, on their expulsion from Byzantium, under the iconoclastic emperors, having formed a school at the church of Santa Maria in Cosmedino at Rome. That school existed till about the year 800, when the troubled state of the Church prevented the further development of the art, and there ensued a complete lapse for some centuries in Italy. About the year 1150 Desiderius, one of the "Abbati" of the great Benedictine establishment at Monte Casino, sent for workmen from Greece, in order "that the art might not be lost in Italy, and that the young men of that country might learn the mode of manipulation." Shortly afterwards the Greek work began to be imitated in Italy and Sicily, though more particularly at Rome and Florence. Andrea Tafi, Gaddo Gaddi and Pietro Cavalini became skilful workmen in Italy during the thirteenth century, when the second series of great mosaics—those of Santa Maria Maggiore, San Giovanni in Laterano, &c.—were carried out. This series differed materially from the former, and it was in this latter style of mosaic that all the examples in Westminster Abbey were executed. These specimens were peculiarly interesting because, independently of the inscriptions upon them —which proved their date beyond any doubt whatever—the evidence afforded by their style showed that they were works of the manner and period referred to, and displayed the English sympathy of the thirteenth century with Italian art. The pavement of Becket's crown in Canterbury Cathedral, in addition to portions of "Opus Alexandrinum," comprised a very perfect specimen of the old Florentine mosaic, or "lavoro di Commesso," which was quite a different kind of work, the best specimens of it being preserved in the Baptistery at Florence and the church of San Miniato on the hill above the same city. The latter description of mosaic was formed by drawing the desired pattern on the surface of the marble and chasing it completely out, and then cutting out of another piece of marble of a different kind the pattern necessary to fill up the cavities of the former. This kind of mosaic was carried still further at Sienna by Beccafumi, who attempted to produce effects of light and shade by the use of different tints of marble, and it ultimately led to the regular Florentine mosaic, in which, in addition to attempts to realise chiaroscuro, colour was introduced by the employment of different stones, and even jewels. In the earlier specimens of Florentine mosaic the only colours were red, black, green and white.

HARDELOT.

THE acquirement by the Duke of Argyll of some three acres of ground for the construction of a summer chalet on the beautiful estate of Hardelot, situated some six miles to the south of Boulogne-sur-Mer, has attracted much attention to this lovely neighbourhood and the fine old historical Chateau of Hardelot, still in a remarkable state of preservation despite its age. Hardelot Castle, of Roman origin without doubt, was one of Charlemagne's seaside fortresses in the ninth century; the place was partially destroyed a little later on, but was refortified and greatly enlarged in 1228 by the Comte de Boulogne. During the wars between Henry VIII. and Charles Quint combined against François I., the castle capitulated to the English forces, and was visited by Henry VIII. in 1544, when terms of peace were discussed between the ambassadors of France and England, the latter nation being represented by the Earl of Hertford, the Bishop of Winchester, Sir William Paget and Sir Richard Riche. Charles Dickens knew the neighbourhood well, and often passed many quiet weeks in the village close by. This fine property, one of the most charming on the north coast of France, and enhanced by the wide lake in front of the chateau, the refreshing pine forest in the background, and the picturesque downs reaching to the beach some half a mile distant, has, under the organisation of Mr. John R. Whitley, been acquired by an Anglo-French syndicate, with the intention of opening it out as a high-class pleasure resort and a convenient and select rendezvous half-way between London and Paris, for those who seek the pure air of a lovely neighbourhood where fishing, shooting and golf, &c., may be enjoyed. It is proposed to build a large hotel on the further side of the lake and instal a club in the more modern portion of the castle. The estate, under the distinguished direction of Mr. Louis Cordonnier, architect of Lille, Mr. John R. Whitley, a number of the richest and most influential men of the north of France forming a committee, Mr. Arthur Vye-Parminter (architect to the British Embassy, Paris), &c., is being carefully distributed for the construction of good-class houses and bungalows of French and English styles. A strict set of rules and regulations with regard to the arrangement of the avenues and the class of buildings to be erected and their sanitation will keep the place essentially high-class. The regulations regarding the internal sanitary installation of the houses are strict, and the scheme of sewage treatment and disposal is being based on the principle of the best systems employed in England.

GENERAL.

A Special Meeting of the Royal Institute of British Architects was held on Monday to consider amendments relating to competitions. One proposing three assessors in cases where the outlay was to exceed 25,000*l.* was negatived. The following clause was adopted:—"The usual R.I.B.A. scale of charges for assessing competitions is the sum of 30 guineas plus one-fifth per cent. upon the estimated cost of the proposed building." A proposal met with the approbation of the meeting that it should be an instruction to each assessor that in coming to his award he should decide strictly on the conditions on which the competition was invited.

The Late Mr. Edward Henry Corbould, the water-colour artist, has left estate of the value of 5,249*l.* 2*s.* 8*d.* In his will he expresses the desire that Her Majesty should deign to accept the best water-colour painting (of recent years) in his possession, entitled "The Death of Tursitan, the leader of the Norman Band, in Beverley Minster."

An Exhibition of 641 mezzotint engravings, mainly derived from Lord Cheylesmore's collection, is now open at the British Museum. The examples have been arranged in such a way as to illustrate the history of mezzotint engraving from the date of its invention by Ludvig von Siegen, in 1642, down to its change and decay in 1820.

The Remains of Greek fortifications were discovered recently at Naples. The word Naples signifies new city, and the place was founded by colonists from Cumæ. The Greek language was used until the second century of our era.

The Late Mr. H. C. Richards, K.C., M.P., has bequeathed to the Dean and Chapter of St. Paul's Cathedral 5,000*l.* for the rebuilding and sustentation of Paul's Cross, in memory of the testator's grandmother and brother. In the event of the Dean and Chapter not accepting the bequest, 1,000*l.* is to be paid them, or the sum necessary, for a window in the nave of the cathedral in memory of the testator, his grandmother and brother.

The Northamptonshire Education Committee have adopted the recommendation that a consulting architect should be appointed with a retaining fee of 100*l.* per annum, with an additional fee of 1*l.* 5*s.* when a visit to a school is necessary. A building inspector is also to be appointed at 150*l.* per annum.

Among the Appointments to the Order of Merit are Sir Laurence Alma-Tadema, R.A., and Mr. William Holman Hunt.

The Cleveland Chapter of the American Institute of Architects recommend a uniform eight-hours' work day for architects and draughtsmen. It was also decided to recommend that the employés of the different architects be given a Saturday half-holiday during the months of July, August and September.

The Committee of the House of Commons have declared that the preamble of the London Building Acts Amendment Bill promoted by the London County Council was proved so far as it related to the provisions for providing escape from fire, and other clauses (101, 103, 104 and 106) relating to separation of buildings, boarding upon walls, lifts and windows should be omitted.

At Inch Abbey, co. Down, an oblong stone, with a crucifix and two attendant figures rudely carved in low relief, has been unearthed. Judged from the position of the feet, which are crossed, the workmanship is of the twelfth or thirteenth century.

M. Ziem, the French painter, has presented forty of his paintings to the City of Paris, and the gift has been accepted by the Municipal Council.

The Edinburgh Architectural Association on Saturday joined the Edinburgh Photographic Society in a visit to Inchcolm.

The Society of Arts Medals in the Applied Art Section have been awarded to Mr. Thomas Graham Jackson, R.A., for his paper on "Street Architecture," and to Mr. F. Bligh Bond, F.R.I.B.A., for his paper on "West Country Screens and Rood Lofts."

The Fine Art Academies of Rome, Venice, Florence, Turin and other important art centres in Italy have resolved to organise an exhibition of modern Italian work, which will probably open on December 1.

Dr. Alexander B. W. Kennedy, civil engineer, has received the honour of knighthood. Dr. Kennedy was born in 1847. He was professor of engineering in University College, London, from 1874 to 1889, and has since then engaged in private practice. He has designed electric works for lighting or tramways in a large number of towns, including Aberdeen, Edinburgh, Ipswich and Darlington. He served on the Naval Boiler Committee in 1900.

M. Georges Lafenestre, keeper of paintings at the Louvre, has been appointed to succeed the late Eugène Guillaume as professor of æsthetics and of the history of art at the Collège de France.

The Cartoon Gallery at Hampton Court will be closed until further notice. Baron d'Erlanger having presented to the nation a series of valuable tapestries, after the Raphael Cartoons, to be placed in this gallery, it will be impossible to admit the public while the work of erecting them is being carried out. It is expected that this work will occupy at least a month.

The Army Council have decided that, on removal from Chatham, the School of Military Engineering shall be established at Coopers Hill, Staines, in the buildings vacated by the Royal Indian Engineering College.

The Council of the Society of Arts in their annual report express their regret that the proposal for amalgamating the Society of Arts and the London Institution into a single important corporation had not met with the approval of the general body of the London Institution. The examinations had been extremely successful, the number of candidates having reached the large total of 23,803. The finances of the Society were reported to be in a very satisfactory condition, the accumulated savings during the past thirty years having now reached 21,000*l.* The number of members has also shown an increase of late years. The total is now 3,722.

The Housing Sub-committee of the Sheffield Corporation recommend the Council to adopt the plans of Mr. H. L. Paterson, the successful competitor in the recent architectural competition, for the erection of twenty houses at High Wincobank, and to accept the tender of Mr. Malthouse, builder, for the building of the houses for 2,520*l.* The competition was for the purpose of providing houses for the working classes which will let at 5*s.* a week clear without any charge on the rates, and it is anticipated that the houses about to be erected will fulfil that requirement. Mr. E. M. Gibbs was the architectural assessor.

The Aston Town Council discussed some time ago whether a resurvey of Aston Manor should be made by the Ordnance Survey Department or the work done by the surveyor's department. In view, however, of the excessive cost, it was resolved that the work should be executed by the surveyor's department. The surveyor has submitted copies of the revised maps for approval.

A Meeting was held last week in Winchester to consider the desirability of excavating and restoring the remains of Hyde Abbey, on the outskirts of the city. The city of Winchester recently purchased the piece of land on which stood the chancel of Hyde Abbey Church, in which were buried King Alfred, his queen, and their son Edward the Elder. The abbey, which was dismantled by Henry VIII., was finally destroyed and levelled to the ground during the erection near the site of the church of a county bridewell in 1788. It is known that the foundations of the chancel remain on the plot of land now purchased, and it is hoped that, by excavating, the exact site of the high altar may be found, and by that the approximate spot of Alfred's interment located. A committee was formed to collect funds, among the names being those of Lord Winchester, the Bishop of Winchester, the Dean of Winchester, Mr. W. St. John Hope, Sir Caspar Purdon Clarke, Mr. W. W. Portal and Mr. G. Shaw-Lefevre. Mr. Alfred Bowker, Southgate Street, Winchester, is the hon. treasurer.

Mr. Morgan Williams has taken into partnership Mr. Harold W. Couzens, M.Inst.E.E., and the business of the firm will henceforward be carried out under the title of Morgan Williams & Couzens, consulting engineers. Mr. Couzens, in addition to his experience of electricity supply working, has for several years been engaged in the design and supervision of electric power, traction and lighting undertakings, on behalf of the firm of Messrs. Kincaid, Waller, Manville & Dawson.

Mr. E. F. Spurrell has been appointed borough surveyor to the Holborn Council. He has held the office of acting-surveyor for twenty-four years.

The Permanent Offices of the Quantity Surveyors' Association (Incorporated) are now situate at No. 17 Bedford Row, London, W.C., and all communications should be addressed there to the hon. secretary, Mr. F. B. Hollis, who will be glad to give any information relating to the Association.

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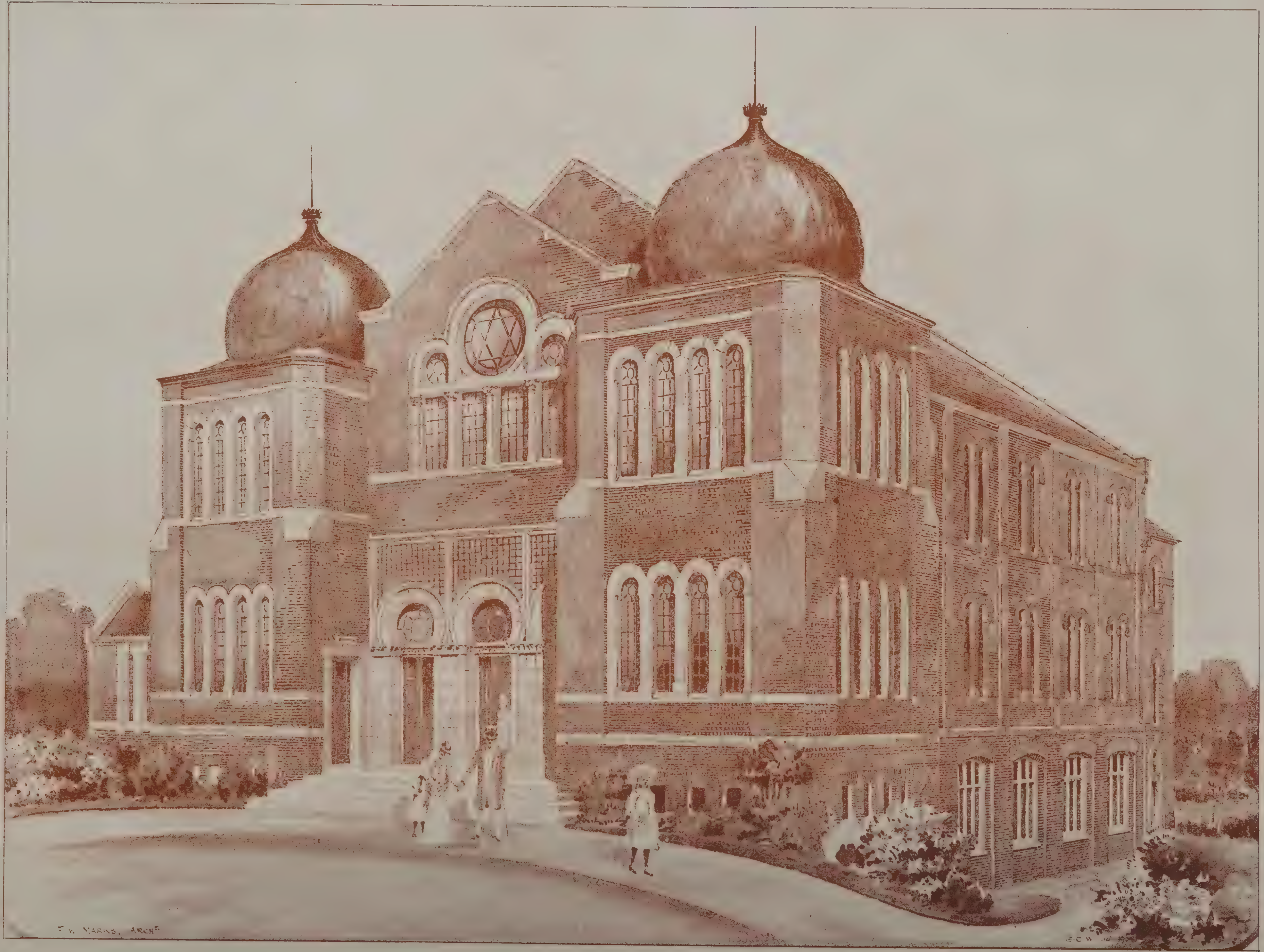
F. W. MARKS, ARCHT.
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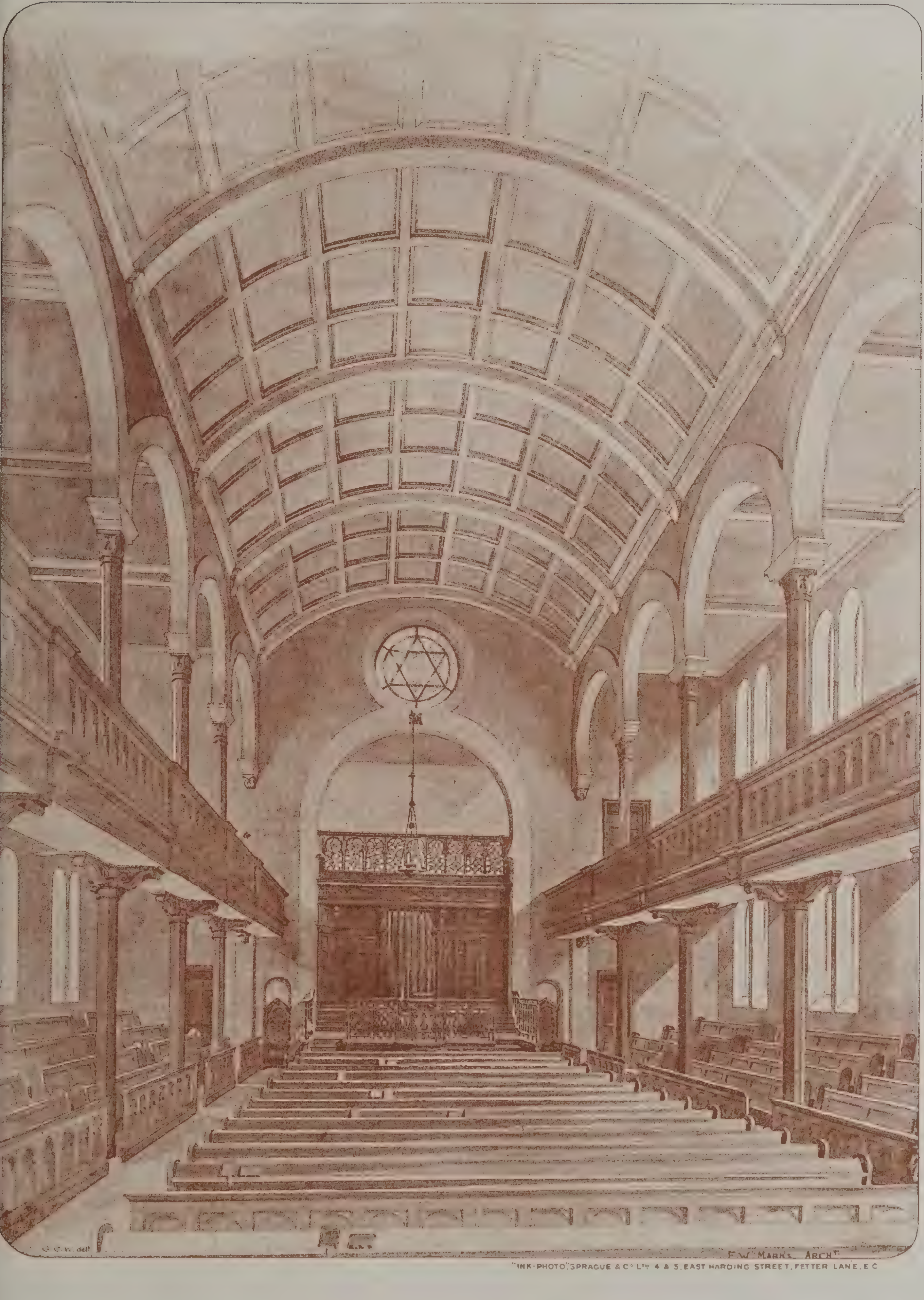
NEW SYNAGOGUE, BRONDESBURY.

F. W. MARKS, F.R.I.B.A., Architect.

The Architect, July 7th 1905.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New Synagogue, Brondesbury: Interior.

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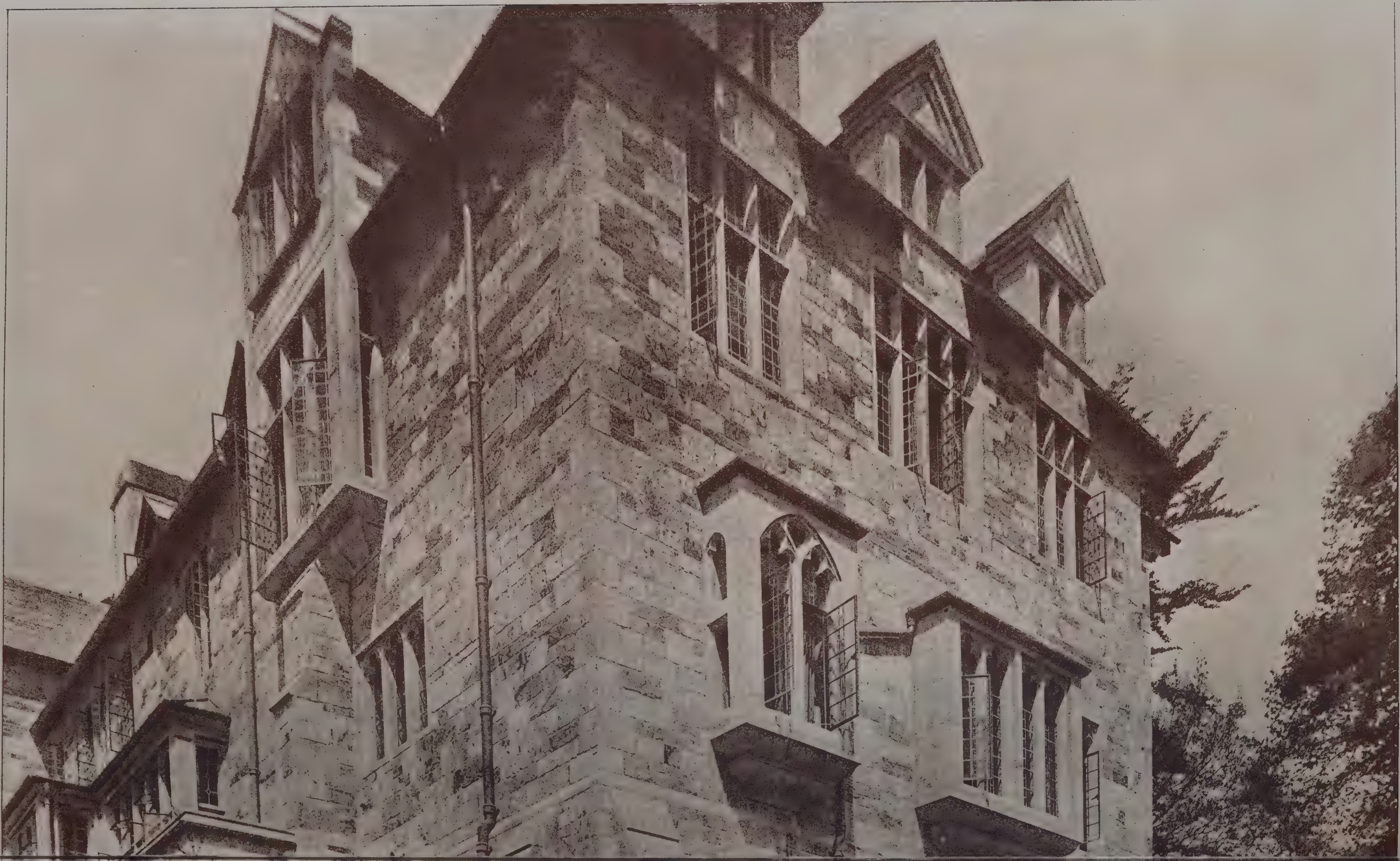

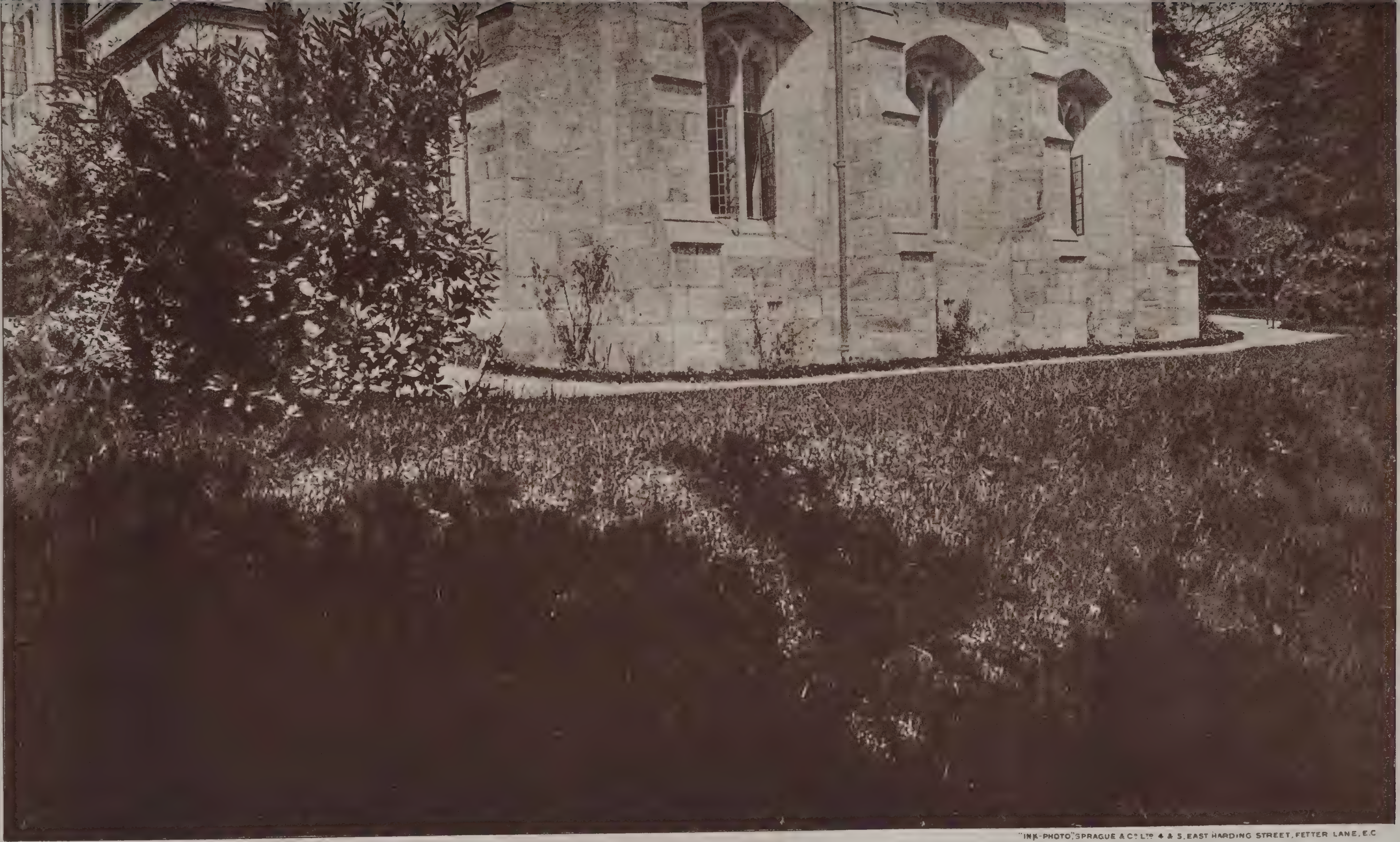

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ADDITIONS TO "ALVERTON," TRURO: SOUTH FRONT.

EDMUND SEDDING, F.R.I.B.A., Architect.

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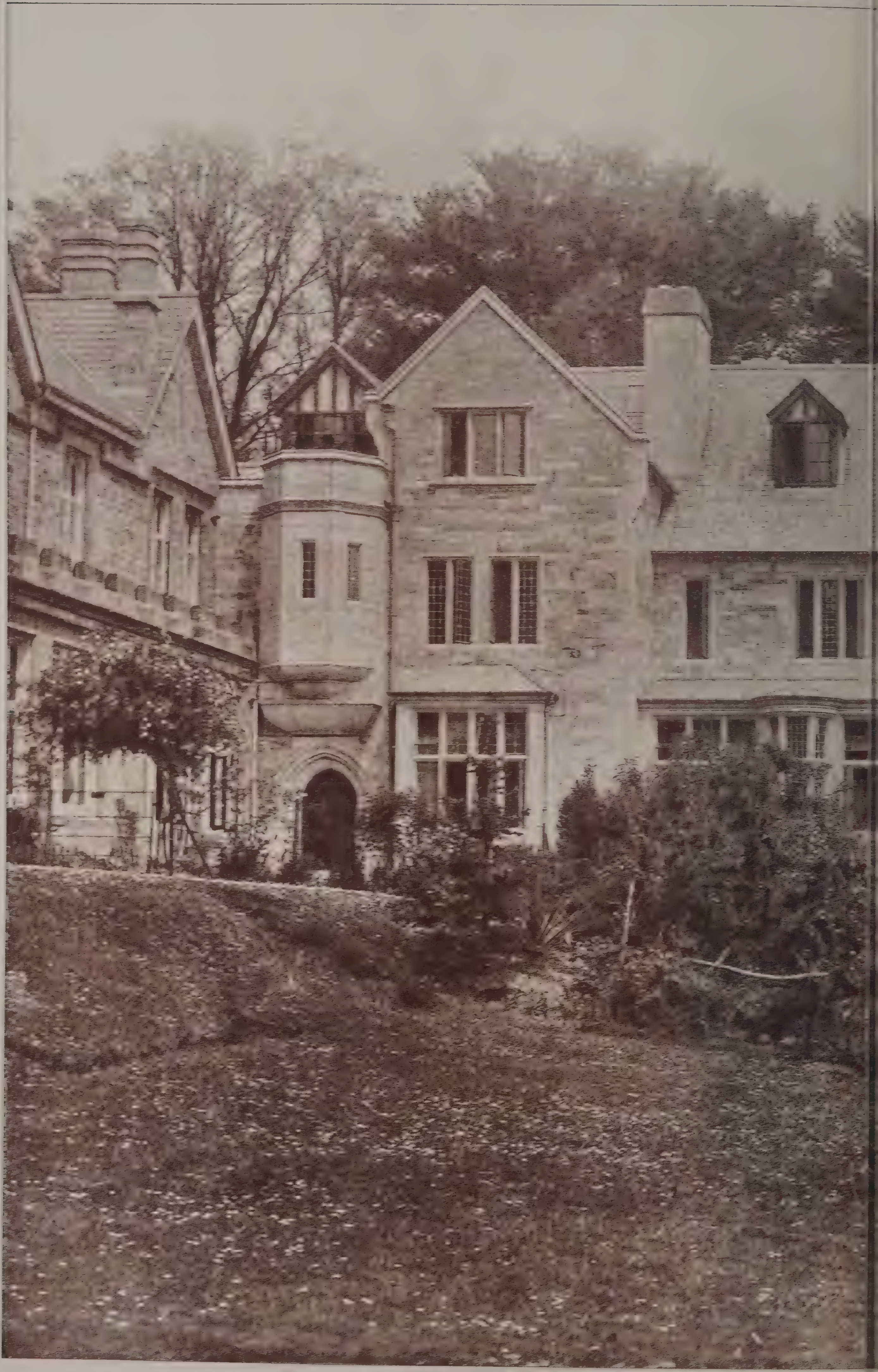

ADDITIONS TO "ALVERTO

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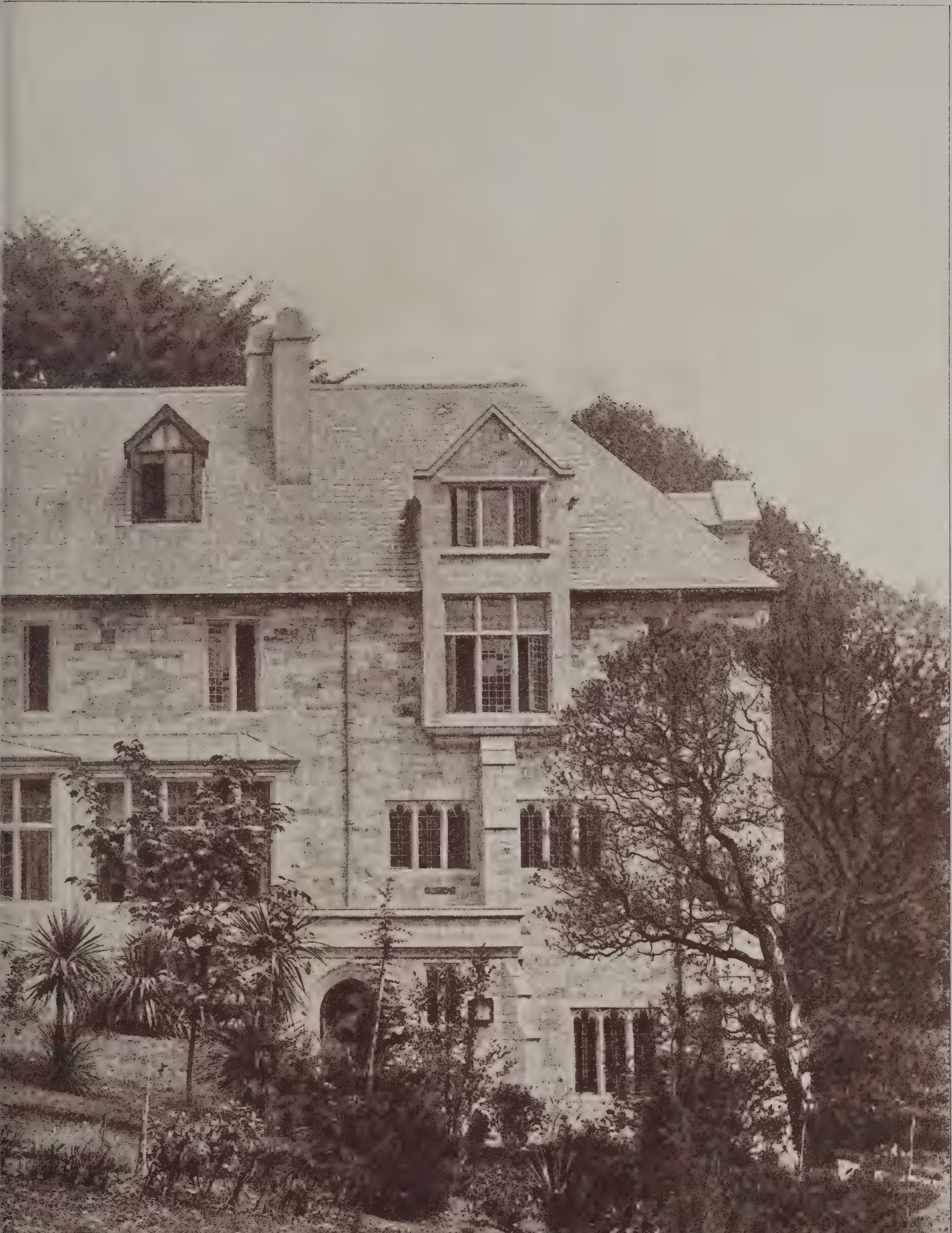

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TRURO: WEST FRONT.

R.I.B.A., Architect.

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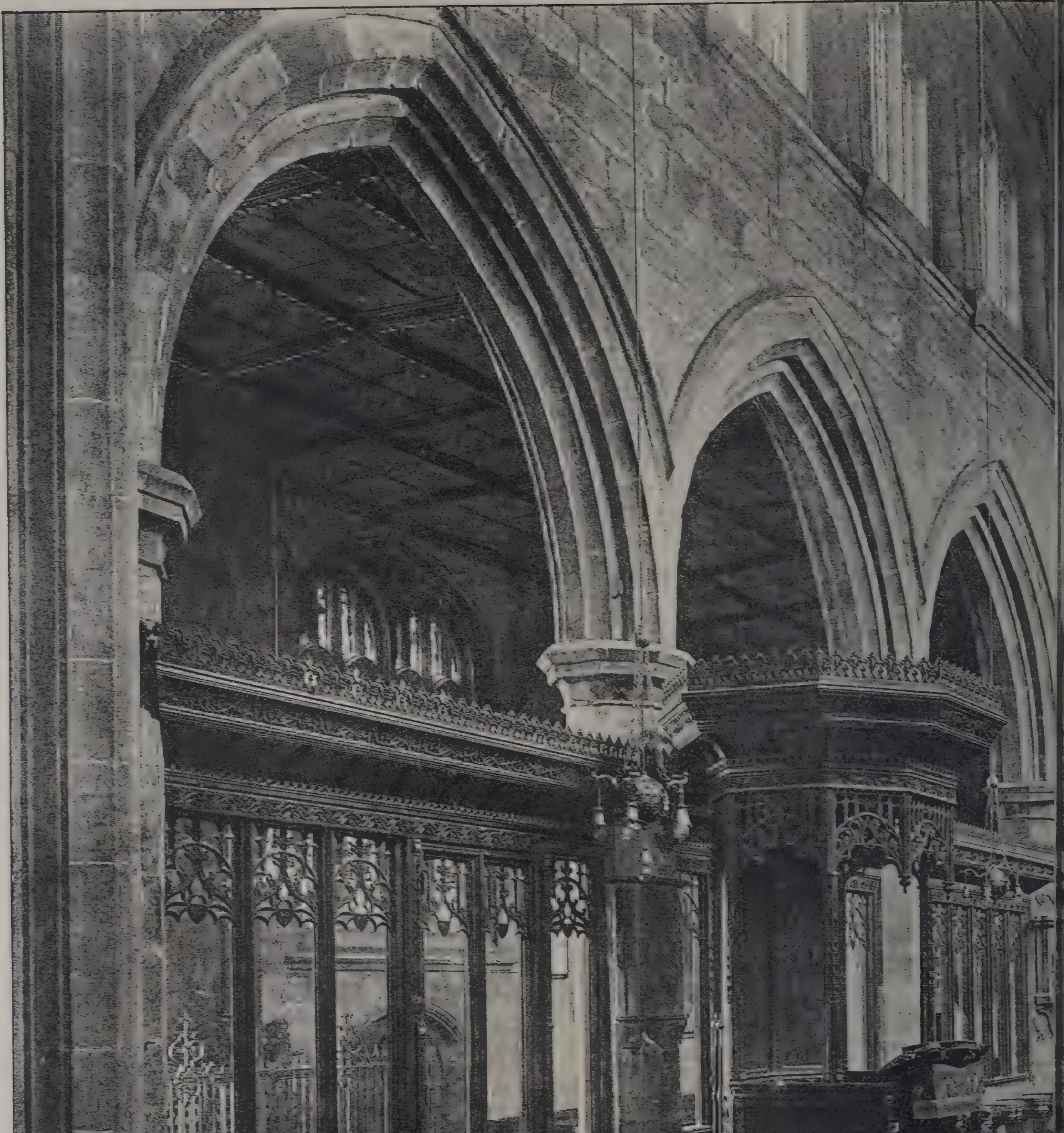
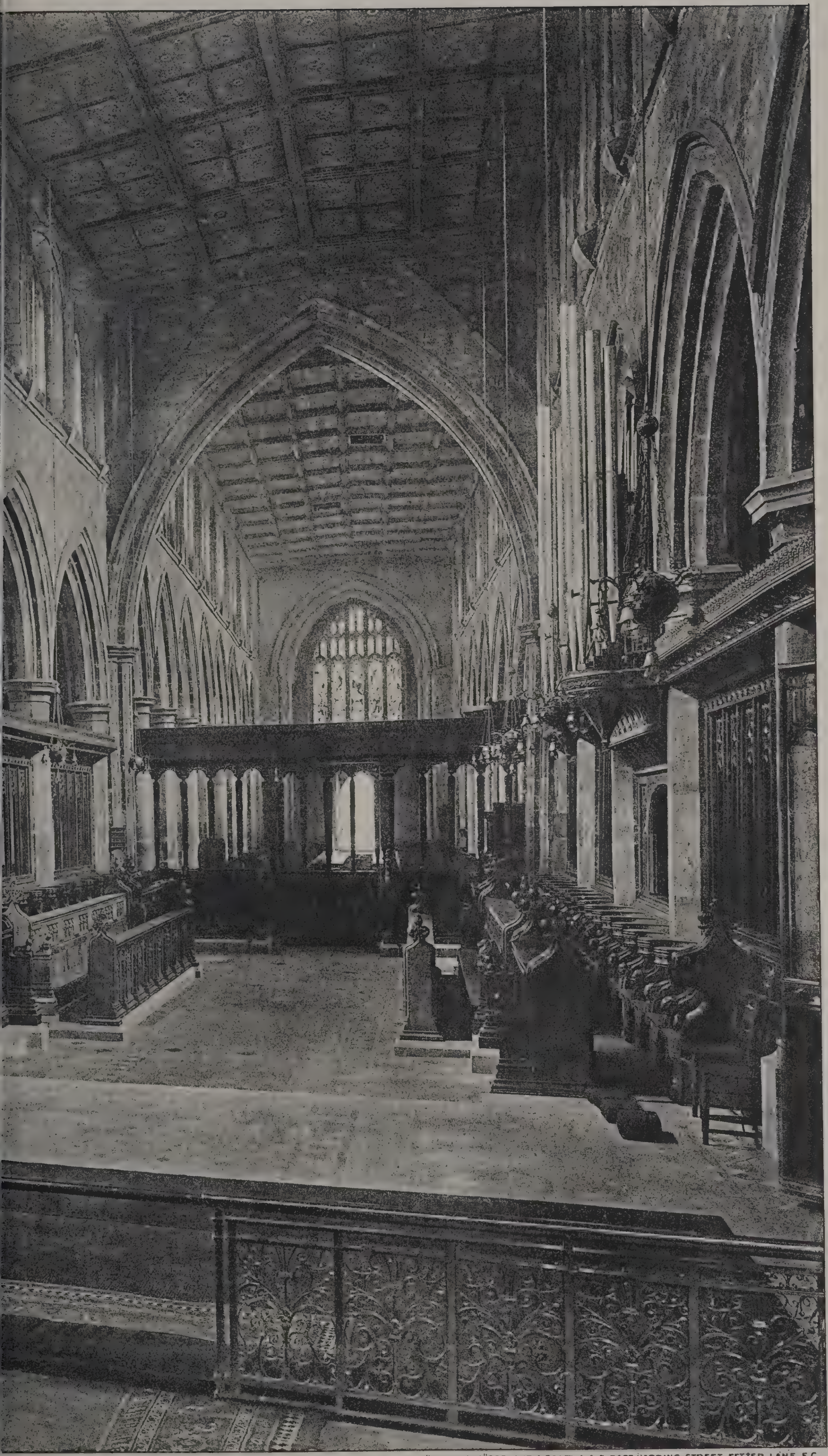


PHOTOGRAPHED BY CHAS. R. H. PICKARD, 5 PARK LANE, LEEDS.

CATHEDRAL SERIES, No. 529.—WAKEFIEL



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CHANCEL AND NAVE FROM EAST END.

The Architect.

THE WEEK.

A great many London architects must have heard with sincere regret of the death of Mr. Charles Forster Hayward, at the Old Guest Hall, Lingfield, in the restoration of which he took much interest. Mr. Hayward was one of the oldest district surveyors, and his experience was often turned to account in the law courts. He rendered services to the Royal Institute of British Architects as honorary secretary, and he was always willing to give his aid to the benefit of his profession. He designed a variety of buildings, several of which were illustrated in *The Architect*. He was also a pioneer in devising projects for the improvement of London.

We referred last week to the extraordinary difference of opinion between experts in one of the Paris courts relating to a number of pictures by modern French masters, but which were alleged to be forgeries. The conclusion which the majority of people would derive from the evidence was that men who profess to be authorities can merely guess whether a picture is genuine or not. The syndicate of dealers have realised that they are likely to suffer if the public should doubt their competency. Accordingly they have been deliberating on the impending danger. The conclusion they have arrived at is practically a confession that a great many so-called experts are without any knowledge of works of art. The Chamber decided that a certain number of the members should be selected who should be known as "experts responsables," and that they should be the representatives of the business or profession in courts of law. The arrangement will, no doubt, turn out to be satisfactory. But it should be a warning to people who imagine that all the picture merchants may be relied on owing to their knowledge of painters' works.

Meissonier was able to paint on an extraordinarily minute scale. His *Battle of Solferino* is not larger than one of our illustrations. Yet the whole action of the French, Italians and Austrians can be made out, although the operations extended for several miles. During his lifetime Meissonier had no rival. But at the present time a representation of the Battle of Waterloo on a canvas about 3 feet in length is to be seen in Paris. It is the work of M. Van Driesten. The action is supposed to represent the field about 3 p.m. on June 18, at the time when Napoleon, having failed for four hours in his attacks, resolved to try the effect of the weight of all his available cavalry. The centre of the picture shows La Haie Sainte, and Napoleon with his staff are seen on the left. Meissonier preferred to represent troops as about to attack. M. Van Driesten, however, suggests the great conflict at its most critical moment. At the same time the work will bear microscopic scrutiny. It is to be hoped the picture will one day be seen in London, where it would gain more interest than is possible in Paris.

A few years ago there was an outcry in Dublin when it was discovered that the bricklayers playfully substituted mud for cement, and in consequence it was necessary to reconstruct some of the drains. That such a successful scamping was possible at one time has made people sceptical about the condition of the new main drainage works. Some members of the improvements committee of the Corporation, with an independent engineer, recently examined the work, and published a report about their discoveries. They said they found an enormous number of small leakages and a number of large ones. Sometimes the men stopped the holes with wooden plugs, and in one place they found the walls covered with tar, which had percolated through the sewer. The subject was recently considered at the meeting of the Corporation. It was stated by the Alderman who was connected with the report that unless measures were taken to remedy the defects an expenditure of about 100,000*l*. would in a short time be inevitable. Other members of the Corporation had reported on the report, and asserted that the cracks were only the result of expansion and contraction, and were not a cause for any alarm. Mr. Chatterton, the consulting engineer, described the work as most satisfactory, and that the sewer was watertight in the specified meaning of the term. Mr. Harty, the city engineer, said he courted the fullest inquiry, and examination by the best experts that could be produced. There was a long discussion, but eventually the report was rejected by a majority. The condition of the sewer will no doubt have to be made the subject of a special investigation.

America has its dead season as well as Great Britain, and one effect is the absence of news. At such a period it is allowable to discuss possible and impossible subjects. One of the American journals has therefore become curious to know how long skyscrapers can endure. What will be the effect of corrosion, vibration, electrolysis and other dangers on buildings which to the nervous man may not appear stronger than scaffold poles? It appears that in the Department of Engineering and Metallurgy in Columbia University the subject has been for some years under consideration. Professor Henry M. Howe says that if the skyscrapers can be kept dry and cool there is no reason why they should not last for ever, or at least for 4,000 years. The iron clamps in the Parthenon continue to be sound. A thirty-storey building, according to Professor Howe, can be as safe as any three-storey house, and he sees no difficulty in raising steel-frame buildings until they are seventy-five storeys in height. Professor Woolson says if care is taken in painting all the parts, including the rivet holes, a steel beam cannot become rusty. Concrete, he believes, is a complete protection from rust. All the investigations made are not convincing about the deterioration of steel structures. It is asserted that vibration is occasionally felt in the upper storeys of some of the high buildings which stand on a very circumscribed area. But no injury to the framing is known to have occurred.

The last number of *L'Art* is devoted to a memoir of the late Baron Alphonse de Rothschild, and the whole of the illustrations represent examples of art in his collection. It is said of him that he possessed in the highest degree the talent of giving. Never was a man more delicate and discreet in bestowing favours, and the letters he received from artists in distress if they had been preserved would have formed an extraordinary and saddening collection. The list which is given of the galleries in France enriched by him contains no less than one hundred and fifty names. There never was a man who did so much for France and for art. One of his last acts was to unite with his brothers in giving ten millions of francs to the city of Paris for the construction of houses which could be let at a cheap rate. Since the death of the Baron Alphonse the Académie des Beaux-Arts, of which he was a member, has been informed that he has bequeathed a sum of 200,000 francs for the foundation of a prize which should bear his name. It was left to the Académie to arrange the conditions, the only suggestion offered being that the prize should be awarded every second year. In that way, whoever is awarded the money will receive a sum that must be considered as munificent. Some of the French artists united in presenting him with a statue in bronze which personified the late Baroness Nathaniel de Rothschild as *Bounty Protecting the Arts*; at the base was a medallion of the Baron by M. Victor Peter.

THE NATIONAL PORTRAIT GALLERY.

It has been said that "great men have been among us, hands that penned and tongues that uttered wisdom—better none," and the fifteen hundred portraits belonging to the Trustees of the National Portrait Gallery suggest the appearance of a great many among them. There are no doubt gaps in the collection, or in other words we may seek in vain for portraits of English worthies whose names are familiar. But taking into account the difficulties through which the gallery has had to pass the number of portraits is creditable to the Trustees. A half-century has not elapsed since the experiment of opening the gallery in Great George Street, Westminster, was attempted, and the progress since that time has been considerable. The portraits, moreover, have been popularised by means of photography, and in that way colonists as well as Englishmen are able to retain an interest in many of the most remarkable characters in English history.

It is a peculiarity of the constitution of the Board of Trustees that painters are excluded. The President of the Royal Academy *ex officio* is allowed to attend the meetings, and a special acknowledgment of the debt incurred to the late George Frederick Watts was shown by his appointment as a trustee in 1896. On account of his health and advancing age he resigned his post in March 1904. The latest report says of him:—

> For the greater part of his long and honourable career as a painter Mr. Watts had, among other similar objects of a patriotic nature, devoted much of his skill to painting a series of portraits of such individuals as he thought most worthy of representing different types of high character in the age during which he lived. These portraits were selected and painted by Mr. Watts for presentation to the nation, and a considerable number of them were handed over to the Trustees of the National Portrait Gallery at the time of the installation of the collection in the present building in St. Martin's Place. The collection was added to by Mr. Watts as in course of time the eminent persons portrayed by him were removed by death. A certain number still remain in the possession of his executors, to be handed over in due time in accordance with Mr. Watts's intention. The following is a complete list of the portraits thus painted for the nation by Mr. Watts and already placed in the National Portrait Gallery:—Duke of Argyll, Matthew Arnold, Robert Browning, Thomas Carlyle, Sir Andrew Clark, Marquess of Dufferin, Right Hon. W. E. Gladstone, Sir John Peter Grant, Sir Charles Hallé, Lord Lawrence, Sir Austen Henry Layard, Right Hon. W. E. H. Lecky, Lord Leighton, P.R.A., Lord Lyndhurst, Admiral Lord Lyons, Earl of Lytton, Rev. James Martineau, Cardinal Manning, Professor Max-Müller, John Stuart Mill, William Morris, Sir Anthony Panizzi, Dante Gabriel Rossetti, John Earl Russell, Marquess of Salisbury, Anthony seventh Earl of Shaftesbury, Viscount Sherbrooke, Viscount Stratford de Redcliffe, Sir Henry Taylor, Alfred Lord Tennyson, Thomas Wright. The Trustees feel that much of the increased popularity which has been gained for the National Portrait Gallery during the last few years has been to a great extent due to this noble series of portraits painted and presented by Mr. Watts, and they wish to place on record their sense of the debt owed by them and the country to their late distinguished colleague for his public spirit and generosity.

The Trustees have also suspended the rule as to the expiration of ten years from date of decease, and have accepted a portrait of Mr. Watts by H. W. Phillips. Several interesting portraits were presented during the past year. They comprise a pencil sketch of George Henry Lewes, the author; W. J. Fox, known as a preacher and journalist; Samuel Smiles, the author of "Self-Help" and "Lives of the Engineers"; Paul Sandby, R.A., who was one of the foundation members of the Royal Academy; his elder brother, Thomas Sandby, architect and draughtsman; Sir Charles Lyell, the geologist; Sir H. B. Edwardes, who won renown in India; W. H. W. Betty, "the Young Roscius"; William Mason, the poet and friend of Gray; C. R. Darwin, the naturalist (a bust); John Milton (a model of head); F. D. Maurice, the theologian (a death mask); Stephen Pearce, the portraitist. In addition the Trustees have purchased several portraits.

There are so many portraits and the wall space is so limited it has become difficult to preserve the desirable historical and chronological arrangement. It is said that "the Trustees have been in communication with the Army Council as to the possibility of some portion of the site now occupied by St. George's Barracks becoming available for an extension of the Gallery, but up to the present date the Trustees do not find themselves in a position to think that there is any immediate prospect of the much-needed extension taking place." In October last a miniature was stolen from the gallery, which as yet has not been recovered. The Trustees are making "arrangements with H.M. Office of Works for improved communication within the building whereby the escape of such a malefactor would be rendered more difficult." No less than fifty portraits have been copied during the year. One of Viscount Nelson was copied five times; Lady Hamilton, five times; Mrs. Seddons, four times; the children of Charles I., the Duchess of Devonshire, the Comtesse de Grammont were each copied three times. During the year the number of visitors amounted to 144,743—the largest number since 1883.

The gallery has had the effect of increasing the interest in portraiture. The large sums which are obtainable in the sale-room are evidence of the change in opinion. Formerly, only those people who could claim some family connection with the subject of the portrait cared to invest in works of the class. But now the quality of the work becomes a recommendation, and more influential is the historic importance of the individual. It cannot be said that the Trustees of the National Portrait Gallery are competitors, and therefore by their action have increased the cost of portraits. The funds allowable are only limited in amount, and, indeed, the gallery may be said to depend mainly upon works obtained gratuitously. It has also been realised that portraiture is a more difficult kind of art than was supposed, especially in this country. Works which rival those by Reynolds, Gainsborough, Romney are not always obtainable, but the excellence of their masterpieces has taught the public to welcome any work which seems to be an honest endeavour to gain effects without imitation. It is at least certain that, in spite of the advance of photography, portrait-painting has not ceased to be a living art.

The day of the extinction of portraiture through chemical or mechanical agencies happily appears to be very remote. Photography is an aid to enable us to appreciate the portrait-painter's work. For no matter what aids or appliances are employed the camera cannot become a substitute for the insight of the artist. Indeed, it would seem that the position of the portrait-painter is now higher than formerly, for there is a desire in human nature to have a record which will show one at their best, and photography does not always succeed to that extent. At the same time photographic portraits have their use in a national portrait gallery alongside great paintings. Every portraitist wishes to exert his creative power, or, in other words, to express what he thinks is the character of his subject. Ruskin says that Reynolds's or Gainsborough's representations "may be demonstrably inaccurate or imaginary in many traits and indistinct in others, yet will be in the deepest sense alike and true." That is to say, they give the interpretation of character formed by a particular artist. Half a dozen other artists would, however, produce different resemblances. Gainsborough's *Lord Heathfield*, for instance, suggests the General who was known about Town, but Reynolds's, which is altogether dissimilar in physiognomy, suggests the defender of Gibraltar, who was as firm as the rock on which he stood. Neither painting is likely to have presented the man who lived at Turnham Green as he appeared to his neighbours. It would now be interesting if we could have a commonplace photograph of the old warrior, for by its aid the two paintings might gain in interest. The noble portraits which Mr. Watts has presented to the National Portrait Gallery are sometimes idealised, and hereafter men will desire to have means of verification of the appearance of the celebrities. The Trustees accept photographic reproductions of portraits. But they would do well also to obtain photographs of modern men whose portraits they possess for comparison by the critics and the physiognomists of the future. Dr. Johnson objected to be sent down to posterity as "Blinking Sam," although Reynolds, who painted the portrait, was his dearest friend. If photography existed in those days it might have suggested that the Doctor's dimness of vision was only apparent to those who scrutinised his countenance, and was overlooked by the majority of citizens he encountered in Fleet Street.

RESIDENTIAL FLATS.*

We published last week a paper by Dr. Parkes, the Medical Officer of Health for Chelsea, in which he considered some of the defects which are to be found in mansions let as flats. He admitted that the superficial space with residential flats was overcrowded. On the other hand, most of the rooms he found were well ventilated, they were warm and of equal temperature in winter, and there was considerable saving of energy by having all rooms on the same level. He concluded by saying that if flats were an evil they were a necessary evil, and that an antidote would be found by an increased use of the motor car. Unfortunately it is almost impossible for human beings to live together without the creation of dangers to sanitation. Picturesque villages often show a high death-rate, and costly mansions of an ancient type are sometimes unsuitable as abodes. In the eagerness to build flats, sufficient care may not have been given to sanitary requirements, but the greater part of the modern flats in the Metropolis cannot be considered as exceptionally dangerous.

If flats were risky for the occupants they would have been long since abolished. It is commonly said that there is nothing new under the sun, and flats cannot be regarded as exceptions. Modern investigation has demonstrated that in Imperial Rome the streets were narrow, and it would have been impossible to shelter so large a population as is recorded within the walls unless the houses were of great height. Hume tells us of an oration by Aristides, a sophist, in which it was said that Rome consisted of cities on the top of cities, and if one were to spread it out and unfold it it would cover the whole surface of Italy. There may be rhetorical exaggeration in the words, but if we believe Strabo the houses were so remarkably lofty Augustus was compelled to issue an edict fixing 70 feet as the normal height. The Roman nobles certainly desired to have a spacious area about their houses or palaces, and we may therefore suppose that the flats were occupied mainly by plebeians of various degrees, corresponding with the tenants of flats in London. The large number of substantial and tall houses which have survived in Edinburgh are a testimony to the advantages of sound building, and the histories of the men who lived in them suggest that they were not inimical either to a growth of intellect or bodily courage. They were, however, incomprehensible to Englishmen, and Sir Walter Scott suggests this when he describes Colonel Mannering's visit to the residence of the great lawyer, Mr. Pleydell. He could not understand how a celebrity should select such quarters. The stair was offensive, the wainscotted passage of the flat was mean and narrow, and the fastidious client became embarrassed. But the library was a well-proportioned room hung with portraits of Jamieson, and the shelves were filled with the best authors, and especially the classics. The view from the window displayed the varied region between Edinburgh and the sea, and the visitor realised that his adviser was no fool. Scott himself lived in a flat, and has recorded that many respectable families preferred them. But he was too truthful not to admit that the narrowness of the accommodation was often fatal to children.

Paris likewise is essentially a city of flats, and they can be very comfortable. No doubt the parts are on a small scale, and a servant rarely can be provided with a bedroom. A maison de rapport can, however, have an imposing appearance, and in Paris that atones for many inconveniences. Other cities on the Continent have not been able to find more satisfactory solutions of the housing difficulty than by flats. Mr. Sydney Perks, in his new volume, enables his readers by the aid of photographs and plans to realise the essential difference between foreign and British arrangement.

In England the monasteries were made to accommodate a large number of inmates. But the Inns of Court were apparently the first attempt in the subdivision of a building to serve many occupants. The ordinary rooms of the Temple at the present day would not satisfy the requirements of workmen who have lived in model dwellings. With educated men custom and association count for much, and wealthy lawyers are quite contented to live and die in their dingy chambers. The Albany was originally designed by Sir William Chambers for an individual. But it was altered to serve for several people. It has the additional advantage of some chambers being freeholds, and Lord Macaulay considered he was to be envied when he was able to say, "I have an entrance-hall, two sitting-rooms, a bedroom, a kitchen, cellars, and two rooms for servants, all for ninety guineas a year."

One portion of Mr. Sydney Perks's treatise may be considered as historical. But the larger part of the volume relates to what was done in recent years, both in England and abroad. He has been able to obtain plans from a great many architects, and his work may therefore be taken as representing the most advanced practice of our time. First, of course, when dealing with building of any kind, and more especially with flats, we have to consider finance. One paragraph is suggestive of the change which has come over the architect's position, and which at one time would be reprobated :—

> When the great development of the London suburbs took place some years ago, many speculating builders made large fortunes. Since then the demand for suburban property has fallen off, and builders have turned their attention to flats, many again most successfully. When they erected suburban villas they did not require the services of architects. That is apparent, alas! to all, but when they commenced to build in London there arose difficulties of light and air, the Building Act, the adjoining owner, and the many little worries unknown to a man when developing an entire suburban estate. The architect became necessary to him. That put the architect in touch with speculation, and he started schemes of his own. The result is the speculating architect of to-day. He looks out for a site, obtains the refusal, prepares plans and a financial statement showing the profit to be made, lays his figures before financial people, and if approved he is instructed to proceed, and the building is erected by tender in the usual way. On the other hand, his scheme may not be approved; in that case he has done his work for nothing, and commences looking for a better site. There are several architects who do little business except of this nature; their experience with flats is great, and their planning is usually good. Sometimes flats are erected by a method that makes it difficult to discover where the speculating builder leaves off, and where the speculating architect begins.

Much, of course, depends upon the character of the site. A large square plot is not always obtainable, and the architect has to make the best of what he finds. There are wandering Christians in search of flats who are much shrewder than any of those who used to criticise Mrs. Lirriper's lodgings in Norfolk Street, and they profess to be rather sceptical wherever advantages are displayed to them. They say that if the sitting-rooms are well lighted darkened bedrooms are inevitable, and if the passages and corridors are wide the rooms must suffer. "When a site is at the corner of two streets, not at right angles," says Mr. Perks, "the plan of one room at least is sure to be irregular. The English architect leaves the room as it is, uncomfortable and unsatisfactory, for what client would allow him to sacrifice floor space and make the room smaller? These things are managed better abroad, especially in France, but the entire praise must not be given to the architects. French people want and will have an artistic room, and the planning that is praised abroad would be condemned in England." The people who insist on squareness have been brought up in the belief that rooms otherwise planned are eyesores. If they were more acquainted with the small salons of the ordinary Paris houses suitably furnished they would realise that there is a connection between irregularity and novelty of effect. Mr. Sydney Perks considers the different parts of a flat in detail. The lift is indispensable, especially if the flat is at a height. Mounting a hundred steps after a day's work is no light task for an elderly tenant. Mr. Perks considers that the most convenient arrangement is to have a lift serving not more than two suites on each floor. In Paris the lift has to be used, but it is not admired, for it diminishes the importance of the staircase, which is usually one of the principal architectural features.

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* *Residential Flats of all Classes, including Artisans' Dwellings.* A Practical Treatise on their Planning and Arrangement, together with Chapters on their History, Financial Matters, &c. With numerous Illustrations. By Sydney Perks. (London: B. T. Batsford.)

Artisans' dwellings are flats under another name. Mr. Perks advocates the employment of balconies. In Paris they are sometimes only found on the highest storey, but it is now being realised that they can be in warm weather used with more comfort than the ordinary sitting-room. They would have another advantage in England, for they would diminish the bareness of the exteriors of buildings used for accumulated dwellings. The working-classes resemble other men in being fickle in their preferences. In some provincial towns cottages are desired, and as the book shows, the Liverpool Corporation especially have made great efforts to gratify them.

In treating of flats Mr. Perks divides them into four groups or classes, viz. (1) those let at very high rentals, including small flats in expensive neighbourhoods; (2) flats let at low rents; (3) flats at still lower rents, some of them only slightly better than artisans' dwellings; and (4) bachelor flats and catering flats. Plans and descriptions are given of the most interesting examples in London, and it is therefore easy to compare various ways of overcoming the difficulties presented by sites which at first might appear to be unsuitable for such buildings. Foreign and American examples are available for a like purpose. It may be taken for granted that amidst such variety something will be found which will be suggestive, no matter what kind of site will have to be utilised.

Finance receives special attention. Mr. Perks considers that 7 or 8 per cent. is about as much as can be expected in straightforward cases. There is now competition, and people with little to do find it interesting to go about and make inquiries as to rent and accommodation which they are able to disclose. The architect is advised that "he must give as good if not better accommodation for the same rental." It is said there is a good demand for suites up to 200*l.* a year, but above that rent the demand decreases. The "Tube" has had the effect of raising rents in the neighbourhood. Suites at less than 70*l.* a year are said to be seldom a financial success. It is also to be noted that blocks are difficult to sell. Mr. Perks further gives forms of agreement which have been used in London, and which are worth the attention both of owners and of tenants. Altogether it is a book which is not only unique in architectural literature, but is one of which every page has a practical tendency. It can therefore be a source of profit to architects and to builders as well as to speculators.

ITALIAN GARDENS.*

ADMIRERS of ancient art, however enthusiastic, find it difficult to praise the landscape-paintings of the ancients. They have to depend for evidence about them mainly on verbal descriptions which are usually vague. The remains of paintings which were found at Pompeii do not suggest acquaintance with nature. To an ancient Greek or a Roman the earth's surface was not deserving of admiration for its beauty.

If we are comparatively ignorant about ancient landscape-painting, we may infer its character from the landscape backgrounds of early Italian paintings and illuminated manuscripts. In them we see that the artists believed their best course was to exert their imagination rather than their eyes. A great many years had to elapse before it was realised that mountains, trees, lakes and plains which were to be seen without difficulty were infinitely superior to the efforts at creation by men who were great as painters. Da Vinci, who was a keen observer and the precursor of the realists, did not hesitate to follow the old ways, and to introduce landscape backgrounds which probably are symbolic and have reference to the figures represented, but are not of the earth.

We can also recognise the ancient method in the Italian garden. The creators imitated the painters as far as was practicable. They believed nature could be improved by art, and in their great gardens it is sometimes difficult to say whether architecture and sculpture, or trees, plants and flowers are the more important. The words in "The Winter's Tale" which are commonly applied to the transforming of simple flowers as practised in England might have been an echo of opinions which the poet heard in Italy. For there gardening was truly "an art which does mend nature, change it rather, but the art itself is nature." There is so wide a difference between the two systems of laying out gardens, it seems to be incorrect to use the same word for designating English and Italian examples. John Evelyn felt this, and when describing a visit to the Villa Borghese he says:—"The garden is rather a park or paradise, contriv'd and planted with walkes and shades of myrtils, cypresse and other trees and groves, with aboundance of fountaines, statues and basso-relievos, and several pretty murmuring rivulets." It is doubtful, however, whether paradise was in the thoughts of the creators of Italian gardens.

If the word garden is inadequate to describe the variety which is found in one of those Italian enclosures, so it must be acknowledged that the most perfect drawings or photographs in black and white can only give as it were a shadowy resemblance of what is to be seen in Rome and Florence. In introducing sculpture the Italians took care that the light stone in figures and terminals would be "thrown out" by a depth of colour unlike any to be seen in English gardens. An English visitor may often find his eyes fatigued by the chromatic combinations which he sees before him, and which appear too artificial for his tastes. But, whether rightly or wrongly, Italians set themselves to produce elaborate harmonies by means of vegetation which the greatest of their painters could not rival. Like all his work the plates of Italian gardens which Mr. Charles Latham has executed are admirable for detail. No draughtsman dare attempt all that he has been able to give by his lens. But the excellence of the illustrations compels us to wish that we could have some indication of what is the great attraction in all these gardens. A visitor may have passed by some of the grottos, statues and reliefs without paying much attention to them, and there are aspects which were neglected. Flights of steps may appear to him to be more distressing as a task than they were found. But the most heedless visitor brings away from an Italian garden a memory of colour which he is never likely to lose, and that great blessing cannot be recalled by the plates before us, although they are marvellous for their accuracy as representations of the forms of organic and inorganic objects. Colour is the principal factor in the general impression which each garden makes, and by colour alone can the scenes be brought back to us.

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* *The Gardens of Italy.* By Charles Latham. With descriptions by E. March Phillipps. Vols. I. and II. Dedicated by special permission to His Majesty the King of Italy. (London: *Country Life* and George Newnes, Ltd.)

In the first volume the gardens of Rome and neighbourhood are represented. Some of them may be on the sites of more ancient gardens, and in the laying out tradition was probably respected. But it cannot be said that the architectural parts are ancient. The Villa Albani, which is first described, is not older than the middle of the eighteenth century. The Cardinal of that name had acquired a great many genuine as well as pretended examples of ancient sculpture, and he wished to enshrine all in a temple which would be worthy of them. He was an able amateur, and he found numerous artists who were willing to co-operate with him. A colossal bust of Winckelmann in the garden is an acknowledgment of the assistance he rendered to the Cardinal. The German scholar lived in the palace of the Cardinal in Rome. The buildings were to some extent carried out under Winckelmann's superintendence, and the sculpture was bought on his advice. The Cardinal was said to be "a Cartesian in architecture," for he would not admit of any vacant space, and the villa is undoubtedly crowded with treasures. But ostentation of that kind is pardonable, and the Villa Albani continues to be one of the unforgettable sights of Rome. Mr. Latham gives twenty-five photographs of the Villa and grounds.

The Villa Pamphili Doria is a little older. It was supposed by some authorities to have been planned by Le Notre, the French garden architect. But it is now believed the designer was Algardi. The architecture is well adapted for its purposes, for it is not easy to make a cascade which will serve as a base for statuary and also contain grottoes without more or less departure from principle. The trees are of remarkable beauty around this villa. The Vatican gardens are represented by fourteen plates. Thousands of good people go every year on pilgrimages to that palace, and it is a wonder that some of them do not volunteer to remove the weeds which must be forcing up the flags from the courts and pavilions, and in some cases appear as if growing out of the walls. The gardens date from the time of Nicholas V. in the fifteenth century, but they were afterwards enlarged and new pavilions added under the direction of Bramante. One of the plates shows the colossal pineapple or fir cone, which is commonly said to have been derived from the Pantheon. Where it could have stood is doubtful, for the summit of the dome is open in order to light the temple. It has been in the possession of the Popes since the sixth century, and Dante refers to it. As was to be expected, architectural forms are predominant in the Vatican gardens. The Villa Borghese dates from the seventeenth century. At one time it contained a large number of antique statues, but a great many of them have passed to the Louvre. Bernini was in his day influential at the place, but in the architecture there is an unanticipated amount of severity, as if he were not allowed to meddle with it. The Quirinal is now a royal villa. The Villa Medici has since 1836 belonged to France, and is the habitation of the artists who have won the Prix de Rome. From the photographs we can observe how carefully the gardens are kept, and a like conservation might well be extended to other villas.

There are no gardens more admired than those of the Villa d'Este at Tivoli. Cardinal Ippolito, who was governor of Tivoli, is said to have paid more than a million crowns for this property. Pirro Ligorio prepared the plans of the gardens, and the fountains are to be credited to Orazio Olivieri. Michel Angelo termed one of them, known as The Oval, the Queen of Fountains. At Tivoli, as everyone knows, there is a great fall which has been skilfully utilised. But picturesque as may be the situation, the quantity of water has had a deleterious effect upon the sculpture and masonry. The Villa Torlonia at Frascati was the residence of Cardinal York, or Henry IX. of England. The gardens are on a scale that elsewhere would be considered too spacious for the house. The cascades are arranged so as to make a series of falls, and ranges of steps are constructed on each side for the convenience of visitors. The continual ascent of such places by steps must have been sufficient to transform an ordinary man into an acrobat.

Out of the fourteen villas illustrated in the second volume, eleven belong to Florence. One is the Villa Palmieri, which in 1893 was occupied by Queen Victoria. During two centuries it may be said to have been in English hands. It has, too, an historical and literary interest, for it is supposed to have been the retreat of the company of young folk who fled from Florence, and who amused themselves by telling the stories which are recorded in the "Decameron." It owes its name to Matteo Palmieri, who was at one time Gonfalonier of the Republic. It is needless to say the garden is kept in good order, and no attempt has been made to alter its ancient character. The Boboli Gardens, although devoted to public use, are respected by the Florentines. It is supposed they suggested the Royal Gardens at Versailles. As the ground is undulating and irregular an attempt was made at one time to alter them to the English style as understood by foreigners. After a while there was a change of fashion, and, in fact, the gardens have been the scenes of several experiments. The statues are of great interest. There is the famous Neptune Fountain by the Flemish sculptor known as John of Bologna. A great many statues are placed in niches around the amphitheatre, and have a pleasing effect. Another remarkable garden is that belonging to the Villa Lante at Bagnaia. The mansion is attributed to Vignola. It was commenced by Cardinal Riaro and finished by Cardinal Gambara. In the arrangement of the beds there is a good deal that reminds one of old English gardens, but nowhere have we so many fountains and cascades. The gardens are overcrowded, and there is "water, water everywhere." On some of the shields is a figure of a lobster, an allusion to the name of Cardinal Gambara. The curious palace at Caprarola has a still more curious garden. In it we see colossal statues bearing baskets, giants protecting small fountains, dolphins guarding flower-beds. The gardens must have presented a different appearance when the Farnese family were in power. Mr. Latham has not forgotten to give the casino, which is in a remote part of the gardens and which is so simple and delicate an example of architecture we can hardly suppose it was the work of Vignola. We have, however, said enough to suggest how interesting are the two volumes. They will afford pleasure both to those who have visited Italy and those who have yet to enjoy one of life's delights. But all who can take pleasure in beautiful objects, the products of nature and art, will find an abundance of them in the plates.

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Mr. William Bruce Dick, founder of the electrical engineering firm of Messrs. Dick, Kerr & Co., died suddenly on Tuesday at the age of seventy-five, at Carrick Grange, Sevenoaks.

MANCHESTER SOCIETY OF ARCHITECTS.

[BY A CORRESPONDENT.]

ON Saturday, July 1, the members of the Manchester Society of Architects visited two recently built houses at Knutsford. "Bexton Croft," for Mr. D. Macpherson (Mr. M. H. Baillie Scott, architect), is a simply-designed house built with a keen appreciation of the value of the picturesque. The external grouping is delightful, particularly the entrance front as seen from the road, and the garden is nicely treated. Internally one occasionally feels a little doubt whether the "quaintness" is not too insistent, but the general charm of effect overcomes the doubt.

"Woodgarth," for Mr. George Wragge (Messrs. Thos. & Percy Worthington, architects), has great architectural charm, and possesses a quiet quality of picturesqueness which is very pleasing. The happiest bit of grouping is the garden front, close to the edge of an old sand-pit containing a tennis lawn and a circular pergola. Internally the general restraint adds to the decorative value of the coloured modelled plaster, tiles and metalwork.

Afterwards, some sketches were made of Bexton Hall, a simple old red brick farmhouse, with a certain stateliness in its symmetrical front crowned by a large octagonal lantern and approached through an enclosed forecourt.

The Society has also made an evening visit to Oldham to see additions to two houses for Mr. William and Mr. James Dronsfield (Mr. J. Henry Sellers, architect). In their breadth of effect and refinement of detail these are very successful. The gate piers to one house seemed to be a natural outcome of the site in their sturdy massiveness, while internally in both houses there was much interesting design in marble mantelpieces and wood inlay to furniture and flooring.

SHAKESPEARE MEMORIAL.

THE special committee appointed by the Shakespeare Memorial committee to consider what form it was desirable the monument should take have prepared their report.

The committee consisted of Lord Reay, Lord Alverstone, Lord Avebury, Sir R. C. Jebb, Professor Maunde-Thompson, Dr. Furnival, Dr. A. W. Ward, Sir Henry Irving, Mr. W. L. Courtney, Mr. F. R. Benson, Professor Butcher, Mr. Anthony Hope Hawkins, Mr. Walter Crane, Mr. Bram Stoker, Mr. G. L. Gomme, Professor Gollancz and Mr. Sidney Lee.

The committee state that, having had under consideration the various proposals for the Shakespeare Memorial, they unanimously recommend that the proposal for an architectural monument, and not merely a statue, be definitely accepted as the most fitting of the various schemes submitted. A world-wide competition is desirable, and Mr. Richard Badger has already offered a thousand pounds to be used for the purpose in any way that may be determined by the committee. For the purpose of dealing with the competition, with the procedure to be followed, and with the ultimate selection, a special advisory committee would necessarily be appointed.

The report was received, and the committee then proceeded to consider seriatim a number of recommendations presented by the special committee. After some discussion, the recommendations were adopted, as under:—

1. That the proposal for a Shakespeare memorial in London be proceeded with.

2. That the form of the memorial be an architectural memorial, including a statue.

3. That the competition for the design be thrown open to artists throughout the world.

4. That Mr. Richard Badger's donation of 1,000*l.* for the purposes of a competition be accepted with thanks.

5. That the London County Council be requested to appropriate a site for the proposed Shakespeare memorial in accordance with its decision, and that the committee express the hope that a site on the south bank of the Thames, near the site of the new County Hall, be submitted, and that simultaneously an application should be made to those in charge of the Royal parks for a site.

6. That an advisory committee be appointed to deal with the competition, and to report to the executive committee as to the designs submitted.

7. That the advisory committee be appointed by the executive committee.

8. That there be at least one annual meeting of the general committee and of the local committees, to be held in April or early in May, to receive reports as to the progress of the movement and to fill vacancies, if any, on the executive committee.

9. That local committees in different parts of the Empire and also American and foreign committees be formed without delay for the purpose of aiding the movement.

It was further agreed that the executive committee should consist of the members of the special committee above named, together with Lord Ronald Gower, Mr. Chisholm, Mr. Tree, Sir E. Brabrook and Professor I. Gollancz, with power to add to their number.

SIR THOMAS DREW, LL.D.

THERE was a meeting of the Senate of the University of Dublin on the 6th for the conferring of honorary degrees. One of the candidates was Sir Thomas Drew, architect, and president of the Royal Hibernian Academy. He was introduced by the Public Orator, Mr. Purser, in the following speech:—

"Maximi apud Romanos habiti sunt architecti, Vitruviique fama cum libris doctissimis ad posteros per sæcula pervenit. Neque minus nos honorare architectos decet: et nunc Vitruvium nostrum Dublinensem ad vos duco Thomam Drew Equitem Auratum, qui Academiæ Artium Regalis Hibernicæ Præses picturam, statuariam, architecturam insulæ nostræ summo iudicio gubernat, stimulat, promovet. Ecclesias Cathedrales Dublini, Ardmachæ, Belfastii vel reficiendi vel ædificandi magna pars fuit. Nos quoque ipsi ingenio eius multa debemus: ædificium enim nuper Collegio donatum alumnorum nostrorum liberalitate, iam perfectum et expolitum scientiæ eius monumentum exstat perenne quam utiles, quam spatiosæ, quam pulchræ sint ædes ab eo exstructæ. Iure igitur eum inter alumnos nostros inscribamus plausibus vestris quam libentissime comitantibus."

The following is a translation:—"The Romans of old esteemed their architects highly, and the fame of Vitruvius, along with his profound works, has reached us across the ages. It is no less fitting that we also should honour our architects: and so now I present to you our Dublin Vitruvius, Sir Thomas Drew, who, as president of the Royal Hibernian Academy of Arts, with wise judgment directs, encourages and advances the painting, sculpture and architecture of Ireland. In the restoration or building of the cathedrals in Dublin, Armagh and Belfast he took a principal part, and we here in College are much indebted to his genius. For the building lately given to the University by the generosity of its graduates, now completed in most finished style, stands forth as a lasting monument, to show how useful, spacious and beautiful are the buildings which he designs. As he deserves it, then, let us enrol him among our members with the hearty accompaniment of your applause."

CHICHESTER CATHEDRAL.

A MEETING of the Chichester Cathedral repair and restoration general committee was held on Monday at the Royal Pavilion, Brighton. His Grace the Duke of Richmond and Gordon, C.B., who had convened the meeting as chairman, was at the last moment unable to attend, having been summoned to a division in the House of Lords.

In the absence of the Duke of Richmond the chair was taken by the Bishop, who, says the *Sussex Daily News*, read a letter from his Grace explaining the reason of his absence. The Bishop detailed the steps which had been taken by the sub-committee appointed to approach the Ecclesiastical Commissioners upon the subject of the further necessary repairs to the campanile and the roof of the cathedral, and referred to the efforts which had been made by the Dean and Chapter during the last sixty years for the repair and restoration of the cathedral, involving an expenditure of no less than 117,000*l.* The Dean and Chapter had subscribed large sums out of their diminished private income for the purpose, and had no alternative but to appeal to the public. His Lordship read a letter from the Ecclesiastical Commissioners offering to subscribe 500*l.* for the purpose required.

The meeting was then addressed by the Dean of Chichester, who had previously issued a valuable statement detailing the various steps which had been and were being taken by the authorities in connection with the cathedral, a copy of which had been placed by him in the hands of every member of the general committee. The statement showed that the subscriptions and donations from 1901 to the present year amounted to 1,296*l.* 4*s.* and the collections to 94*l.* 13*s.* 5*d.*, and that after various expenditure on restoration there was a balance in hand of 438*l.* 11*s.* 3*d.* The Dean suggested that if the committee were successful in raising the amount required he believed that the cathedral could then be said to have been placed in a thorough state of repair and efficiency, such as would with timely attention preserve the building for a great number of years. He stated that in his opinion it would be better to proceed with the restoration of the bell tower in the first instance before attempting to touch the roof of the cathedral, which he thought might remain in its present condition possibly for a year or two more.

Mr. Somers Clarke then addressed the meeting, and said he believed that 5,000*l.*, the amount now asked for, would be sufficient to do what was required. But, as everyone was aware, when an ancient building had to be dealt with, it was impossible to say what might be revealed Chichester Cathedral had undergone perhaps more internal volleys than any similar building now remaining in the country, and finally with the terrific crash of the centre tower, it was obvious many parts of the building might have been slightly shaken, although there was nothing now to cause apprehension. The experiments with baryta water on the campanile had proved very successful, and the committee were now going on applying it to the octagon at the top of the tower. As soon as the north and western turret had been finished and the dry summer which was anticipated permitted the baryta water to be applied, the octagon would be completed. Then there were the new north-east and the south-east turrets to be built. The other important work was the repair of the roof which Mr. Somers Clarke thought ought not to be put off for a single day. As soon as the damp gets through the lead roof into the gutters it falls into the pockets of the vaulting, collected in a puddle and went through making stains and marks. Therefore, as the money was collected, it should be set aside in two separate sums, taking say 2-5ths for the work to the bell tower now in progress and 3-5ths for the roof until there was enough money collected for the roof to pay for doing one whole piece. The committee could not begin the roof and then wait for money to come in as they did with the bell tower; the structure could not be left open. It would be necessary that the committee should be able at a certain date, finding there were several hundreds of pounds in hand, to do so much, and then again to do so much more, and so on by pieces, and never to leave any large area of the structure exposed.

After a discussion it was resolved that the existing appeal committee consisting of the Dean of Chichester, Canon Deane, Colonel W. H. Campion, C.B., Mr. W. D. James (West Dean) and Mr. Ronald Stanley Clarke (Stedham), with Mr. Freeland as hon. secretary, should draw up the necessary appeal to the county for circulation at an early date.

ECCLESIASTICAL DILAPIDATIONS.

A MEETING of the joint houses of laymen of the provinces of Canterbury and York was held on the 7th inst. Lord Ashcombe presided.

Mr. Francis Darwin moved and Mr. Sperling seconded the following resolutions :—

"1. That a periodical inspection of all ecclesiastical property subject to dilapidations should be compulsory, and that such inspection should be at least every five years."

"2. That the bishop should have power to order an inspection at any time, with power to enforce necessary repairs."

"3. That dilapidations and fixtures should be clearly defined, so that there should be a uniform system in every diocese. That the power given by Section 71 of the Ecclesiastical Dilapidations Act, 1871, to remove buildings forming part of the house of residence should be extended to include all unnecessary buildings and erections on glebe lands."

"4. That the diocesan surveyors should be paid by salary, and that they should be officers of the diocesan boards."

"5. That a dilapidation fund should be formed in each diocese, under the control of a Diocesan Board, in order to form a provision against claims for dilapidations. And that incumbents should be required to make an annual payment to this fund, and should thereupon be discharged from liability for dilapidations, except such as may be caused by wilful action or negligence."

Mr. Darwin said it was the custom to talk of the "parson's freehold," but the parson, as parson, had no freehold, and though this had been disputed he was convinced, after consulting those who were better able than himself to interpret the law, that he was entirely right. Whereas a freeholder could dispose of his property as he chose, the parson was fettered and controlled in every way. The subject, he confessed, was dull, because it was not controversial, but putting it shortly he wished to do entirely away with options and to make periodical inspection compulsory.

Sir Lewis Dibdin gave a general support to the motion but asked that such inspection should be at least every five years. This was accepted by Mr. Darwin as a rider.

Earl Egerton of Tatton said it was quite clear the present system was not good. Some system of insurance coupled with annual contributions was necessary. Dilapidations at present did not include anything with regard to sanitary matters, and it was a crying shame to allow a man to go into a house which was not in a sanitary condition, and involve him in 100*l.* expenditure, which he was ill able to afford.

The first resolution, with Sir L. Dibdin's rider, was adopted, as well as the second.

Lord Egerton moved the addition of the words to No. 3, "And so as to include all questions with respect to the sanitary state of the house," but on a division the proposed addition was negatived.

Mr. G. E. Lloyd Baker moved "that the power given by Section 71 of the Ecclesiastical Dilapidations Act, 1871, to remove buildings forming part of the house of residence should be extended to include all unnecessary buildings and erections on the glebe land." With this addition No. 3 was adopted.

Mr. Darwin, in moving No. 4, said he preferred that the surveyor should be an officer of the Diocesan Board and be paid by salary, and Mr. J. E. Maude moved an amendment that the diocesan surveyor should be paid by salary only. No. 4 was amended in the sense suggested by Mr. Maude, and with a further addition was finally adopted in the following form :—"That the diocesan surveyors should be paid by salary, and that they should be officers of the Diocesan Board."

No. 5 was then moved by Mr. Darwin, who said a necessary duty was performed by a voluntary body in Scotland, and the Church in England had yet to learn the blessedness of giving. Sir L. Dibdin moved to add, "and that incumbents should be required to make annual payment to this fund, and should thereupon be discharged from liability for dilapidations." The words proposed were added, and Chancellor Smith then secured the further addition, "Except such as may be caused by wilful action or negligence." No. 5 as amended was then adopted, and the resolutions *en bloc* were formally put from the chair and approved.

BLYTHEBURY PRIORY.

THE pending restoration of the old church at Blythebury, for which the usual means are about to be adopted in order to raise the necessary funds, seems to call for a brief statement of the venerable history of the priory. Particulars are unfortunately scanty. It was a small monastery of the Benedictine order, first for monks and nuns, and later for nuns only, dedicated to St. Giles, and dated from about the end of the reign of Henry I. or the beginning of that of Stephen. The founder was Hugh Malveysin, and his charter was witnessed by, among others, Roger de Clinton, Bishop of Chester. The charter gave lands and their appurtenances free from all custom and secular demands, a common of wood and fixed the boundaries of the site.

A charter of restoration was granted by the founder's son, William, who acknowledged in it having usurped from the nuns some land at Blakelake. The priory was destroyed and the foundations scattered, a farmhouse being on the site in 1789. The last remains were taken down in 1795. No seal has yet been discovered. When the last vestige of the priory was destroyed, and even to the middle of last century, there were two small enclosures, one, the "Nuns' Walk," the other the path leading from the high road to the priory in olden days and known as "Nuns' Lane."

NOTES AND COMMENTS.

The Glasgow Corporation have acted wisely in upholding the selection of the assessors in the competition for the new Mitchell Library. The tribunal was of the kind that was most likely to understand the requirements of the case, for the members were Mr. Barrett, the librarian; Mr. John Keppie, architect; and Mr. M'Donald, the city engineer. Their choice was marked No. 32, which was found to be sent in by Mr. William B. Whitie, of Glasgow. Some members of the library committee preferred No. 55, which was placed fourth, although it was estimated to cost 4,000*l.* more than No. 32, and the adoption of No. 55 was accordingly proposed. It was even said that if the difference was 10,000*l.* they should not be afraid to expend the money. There was also an objection raised to Mr. Keppie serving as one of the assessors because he was president of the local institute of architects. The Lord Provost remarked that after the Council had appointed assessors and expressed their confidence in them it was a pity to turn round and say they were not impartial. On a division it was found that nineteen members were in favour of No. 55, while there were twenty-six for No. 32. The assessors' report was accordingly adopted.

Venice for a time held a large part of Greece, including the island of Eubœa with Chalkis, its capital. Several houses recall Venice, and there is a church which is in Italian Gothic. In Classic times Chalkis was an important place, but the only remains are fragments of marble which are to be found in the walls of the buildings. The modern Greeks resemble the Celts in allowing ancient misdeeds to rankle in their memories. In Chalkis the effect is to remove as many traces as possible of the Venetian rule. Already the fortifications have been deprived of the lions and other emblems of the Venetian builders. It is now said that the walls will also be cleared away. It may be that, as in western towns, they are supposed to stand in the way of improvements. The Venetians no doubt destroyed the works of the Greeks and Romans in Chalkis. But they cannot be restored by further destruction. With as much reason they might overturn remains of an earlier time, for the Athenians did not act differently in Chalkis to the Venetians and Turks of a later time.

Mons. J. P. Gérard, the architect to the French Exploration Society, has been fortunate in restoring the Thracian Car, the fragments of which were found in a tumulus in Greece. It displayed infinitely finer work than the crown of Samothrace, over which so many French archæologists went into ecstasies until the day arrived when it was demonstrated that it had been manipulated by a poor Jewish metalworker. Representations of the Greek chariot are not uncommon in Roman sculpture, and pieces have been discovered of parts which have enabled archæologists to suggest the character of the conveyance. But nothing is known in Europe to equal this new addition. The bronze is not apparently cast nor hammered out of thin plates. It is believed to be entirely chiselled, and the solidity of the metal has probably caused its endurance. There were figures of Bacchus and of fauns, lions' heads and one of Athenæ, which are all examples of sculpture of a high class. The remains belong to M. Peytel, but we have no doubt they will be made over to the Louvre, of which it would form one of the worthiest ornaments.

ILLUSTRATIONS.

LONDON AND LANCASHIRE FIRE INSURANCE COMPANY.—BRISTOL PREMISES.

The new building which was opened in May, and which will serve for the local offices of the London and Lancashire Fire Insurance Company, occupies an area of 3,680 square feet in Corn Street. The company have been established in Bristol since 1872, but the offices were inadequate to the increase of business. When an adjoining site was available it was purchased by the company, the existing offices were taken down, and the premises we illustrate were erected on the conjoined site. Bristol is the gainer by such an addition to its architecture. Externally the ground floor is executed in fine axed granite, above which Hartham Park, Bath, stone is used, the carving of which has been carried out by Mr. Gilbert Seale. Internally the ground floor area is in the occupation of the various departments of the company, and here the walls are lined with specially designed tiles by Messrs. Craven, Dunnill & Co., who have also executed the faïence mantelpieces, which form important features in the general office and local manager's room. All the joinery is in oak, with the exception of the fittings, which are mahogany. In the basement are strong-rooms and lavatory accommodation, with a warehouse in the rear part of the building. This site being one of commanding position for office purposes, special care has been taken in designing the upper floors. There are entrances to these from Corn Street, and also from Shannon Court, and excellent office accommodation is provided for a number of well-lighted suites of private offices. The staircase is of stone, the whole of the walls of which and the corridors are lined with vitreous mosaic, this material being also used for the floors of corridors and passages. An electric lift gives access to all the floors. Ample lavatory accommodation is provided, and the latest patterns in sanitary fittings have been used. The whole of the work has been carried out by Mr. R. F. Ridd, under the supervision of Mr. Edward Gabriel, acting as architect on behalf of the company.

The back portion of the premises is in the occupation of Messrs. Corner & Co., tea warehousemen, and also a large portion of the basement. The offices altogether comprise no fewer than forty rooms, and a feature has been made of providing them with more than ordinary good light. The building is lighted with electricity, and the offices of the company are heated by open fires and electric radiators. The telephone installation is one of the most complete in Bristol. The lift service by which these offices can be reached is a continuous one, and so no time is wasted in waiting.

LONDON AND SOUTH-WESTERN BANK, VAUXHALL.

FIRST CHURCH OF CHRIST, SLOANE TERRACE, S.W.

ESMOND, EGHAM, SURREY.

This house is built with bright-picked stocks with red brick bays and window dressings, Portland stone being used where shown; the upper part of gables, also the arches and more ornate details are carried out in rubbed gauged work; the roofs are covered with red plain tiles. In the library, dado, seating, bookcases, cupboards and other fittings are in oak wax polished, from special designs of the architect. The ceiling and wall frieze are in Tynecastle decoration in effective relief; the room is heated with hot water and has also fireplace with chimney-piece and overmantel in oak. In addition to the conservatory shown in view greenhouses of some considerable extent have been erected close by the house. The architect is Mr. Thomas R. Richards, Bedford Row Chambers, 42 Theobald's Road, W.C.

DETACHED AND SEMI-DETACHED HOUSES AT FELTHAM, MIDDLESEX.

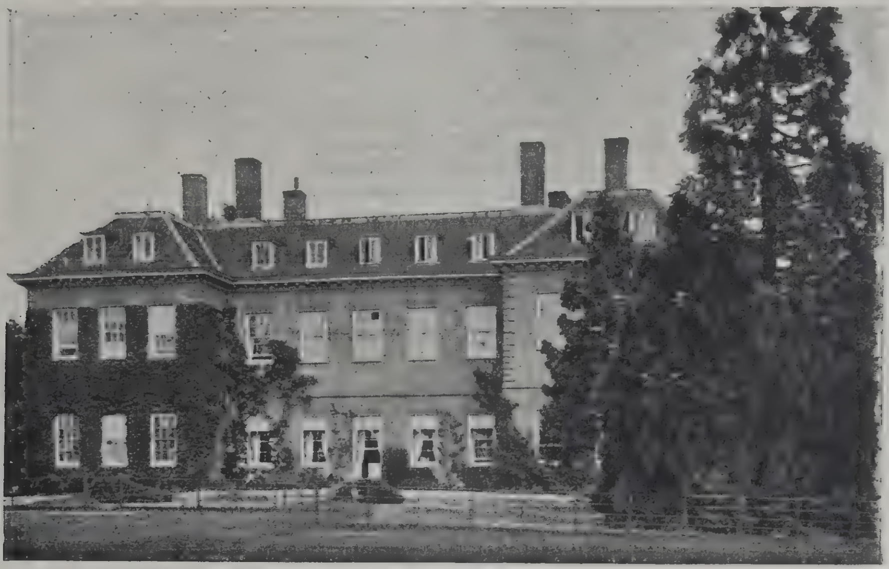
The detached house is built with ground floor and chimneys in red brickwork, with upper floor covered with bright rough-cast. The verge-boards, cornices and window framings are in deal, painted white, and the roofs slated. The semi-detached houses are built with bright stocks, with red brick plinths, bands, window dressings and verges. The architect is Mr. Thomas R. Richards, Bedford Row Chambers, 42 Theobald's Road, W.C.

DENHAM.

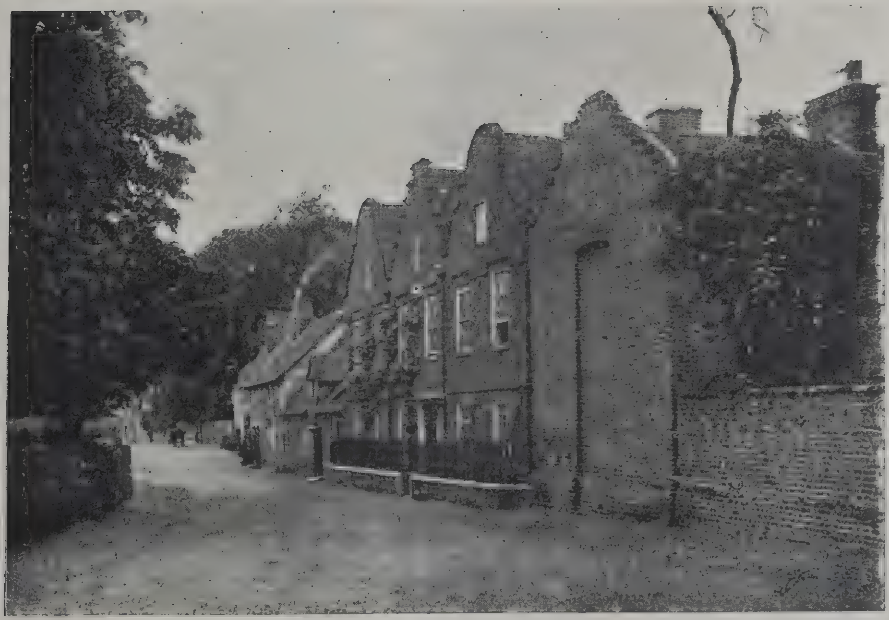
DENHAM, one of the many charming old-world villages on the Middlesex border of Buckinghamshire, was visited on Saturday, June 3, by the members of the Upper Norwood Athenæum, under the leadership of Mr. A. J. Pitman. Travelling by the electrified Metropolitan for the first time, the members arrived early at Uxbridge, where a conveyance was in waiting to take them to Denham Place, the beautiful home of the Hill, and later, of the Way families. As always, those present received the utmost kindness and attention from the owner of the mansion, and in this instance Mrs. Way herself met the party and described the treasures of the house, in which labour of love she was assisted by Miss Hill, who afterwards showed the park and gardens, the conservatories with choice trees and flowers, the horses and dogs. A very large but plain brick mansion, Denham Place contains some large and choice specimens of tapestry, many sixteenth and seventeenth-century paintings, some curious and probably unique cornices in basso-relievo representing rural and sporting scenes. From Denham Place through the village to the church was the next step, and here the rector, the Rev. R. H. Lathbury, M.A., met the visitors and entertained them with a most interesting account of the church, its treasures, the tower of Norman structure, the late Early English chancel, the Decorated arcades of the nave, the recumbent effigies of Sir Edmund Peckham (died 1564) and his wife, the brass to Dame Agnes Jordan, last abbess of Syon (circa 1545) and the interesting palimpsest brass of Amphillis Peckham, daughter of Sir Edmund. The reverse of this brass bears the figure of a Franciscan friar, unique in this respect; Haines mentions it as lost, but the present rector found and restored it to the church. He described it at a meeting of the Society of Antiquaries, in whose Proceedings (xv. 230) both figures on the brass appear as illustrations.

Proceeding by way of the beautiful avenue from the church Denham Court was reached, and here, by kind permission of Captain Swithinbank, R.N., the interesting pictures referred to in the paper were seen, and the trapdoor and secret passage, forming one of Charles II.'s many reputed hiding-places, were viewed. The evening meeting took place under the chairmanship of Mr. Frank E. Spiers at the Treaty House at Uxbridge, where, after tea, Mr. A. J. Pitman read the following paper:—

Although but a country village in the picturesque county of Buckingham, Denham is of peculiar interest both to the antiquary and archæologist, for the surroundings on all sides bear the stamp of age. In the days of the Heptarchy, when, during a period of some 250 years ending early in the ninth century England and Wales consisted of seven kingdoms more or less dependent on each other, Denham was



DENHAM PLACE.



DENHAM VILLAGE.

in the kingdom of Mercia, and later on was described in the Domesday Survey as Danelan, a manor in the possession of St. Peter of Westminster, meaning that it was part of the possessions of the Abbot and Convent of Westminster. In the language of the Domesday Survey (1086):—

"It answered for ten hides. There is land to twelve ploughs. There are three hides in the demesne and there are two ploughs there. Fifteen villanes with the borders have there seven ploughs and three may yet be made. Meadow for twelve ploughs; and two mills of seven shillings and three fisheries pay three shillings a year. Pannage for 300 hogs. Its whole value is and was seven pounds: in King Edward's [*i.e.* Edward the Confessor] time ten pounds. Vestan a thane of St. Peter's of Westminster gave the manor; and it laid in the demesne there on the day in which the king was living and dead."

It is interesting to note that a fishery has existed ever since near Denham, just beyond Denham Place on the road to Rickmansworth, and that quite recently it has been used for the breeding of salmon which have been turned loose in the river Thames. When the survey of Bucks was taken the county was divided into eighteen hundreds. Denham was in the hundred of Stoches, now called Stoke. This is one of the three hundreds which, with Desborough and Burnham, comprise the Chiltern Hundreds, the stewardship of which is well known to be a nominal office accepted by any member of Parliament who wishes to vacate his seat. The earliest document relating to the history of Denham is, however, a charter of Edward the Confessor, son of King Ethelred, and dated Holy Innocents' Day (1066). There is also a Roll of Court in existence dated Michaelmas 1395. Denham stands in a beautiful valley watered by the tiny stream called the Misbourne or Mease, which rises at Missenden and flows into the river Colne at Uxbridge, and is bounded on one side by the county of Middlesex and on the other sides by the parishes of Iver, Chalfont and Hedgerley Bulstrode, and its situation is in accordance with what its name implies—"Den" signifying a dale, and "Ham" a home or habitation. The manor of Denham remained in the possession of the abbot and convent of Westminster from 1299 till the Reformation, when it was granted to the Peckham family, remaining in their possession till 1586, when it was seized for a debt to the Crown. In 1596 Denham Court, Denham Place and the rectory and advowson were devised to Mr. Bowyer. The connection of the Peckham family with this parish is very apparent after a visit has been paid to the church, and the history of England affords further evidence of its existence. For Henry Peckham, a younger son of Sir Edmund Peckham, cofferer of the Royal Household and member of the Council under Edward VI., took part in the Dudley conspiracy, and after most infamous conduct at the trial in trying to free himself at the expense of his co-conspirators, he was hanged at the Tower in 1556, the efforts of his loyal father being of no use to avoid the shame thereby inflicted on the family. In striking contrast to this is the history of another member of this family, as set forth in the tablet erected in the chancel. It reads thus:—

"Sr. Robert Peckham, Knight (sonne and heyre apparent of Sr. Edmunde Peckham), here entombed, was in his lyfe time a man studious in learninge, temperate in diet and chaste in lyfe, having more than a meane judgment in the most parte of the Artes, liberall and not ignorant of the Knowledge of the Lawes of the Realme. He married one of the daughters and coheires of the Lorde Braye. For his wisdome and gravitie he bare office in the Commonwealthe before he hade fully accomplished 24 yeares. In his countrie he did great justice, joyned bothe with mercie and pitie towardes his neighbours. He used greate liberalitie as well in bountifull howsekepinge, as allso in gevinge his cownsell franklye, without either reuardie or monie for the same. Before he came to the age of 40 yeares he was called by the Right Vertuous Princesse Queene Marye to be one of her privie Counsell. In his later age (for his farther encrease of knowledge and for the remedie of certaine diseases which grewe uppon him throughe occasion of painfull service and studie) he gave himselfe to travaile, where, throughe his wisdome, liberalitie and curtesie, he acquired unto himselfe greate fame, and speciallie at the handes of his owne contrimen, such as did want, towardes whome (to his abilitie) he was no niggarde. In the ’nde of five yeares travaile he went to see Rome, where he parted this worlde, makinge a vertuous and blessed ende, willinge his Harte to be brought over and buried in this Church in the Vaulte of his auncestors, and in his Will forgat no contrimen of his owne that he knewe to be on that side the sea (being of anie name) but that he gave them somethinge more or lesse. He made the Poore his executors, to whome he gave all his goodes in these partes, which were not smale. He leafte this lyfe (to the greate comfort of his sowle) on the 10th daie of September Anno 1569 and lyeth entombed in the Church of Saint Gregorie in Roome, whose sinnes our Lorde pardon."

In 1711 the heart was accidentally found in a vault. It was wrapped in several cloths smelling strongly of the materials used for embalming, and contained in a small silver box fashioned in the shape of a heart, but flat top and bottom. The Bowyer family, with a pedigree running back to the time of Henry IV., lived at Denham Court. One of the descendants was the gallant commander of the Blue Fleet which took part in the victory off Ushant on June 1, 1794, when a French fleet of twenty-six sail of the line sustained defeat. Another of the family, who was outlawed in 1669 and died in 1721, erected and endowed a school at Denham for the education of the children of the poor inhabitants of the village. The motto of the family is "Contentment passe Richesse." A portion of the parish known as Denham Durdents was given by Edward VI. to the citizens of London towards endowing St. Thomas's Hospital in Southwark. Henry VIII., in 1540, granted to the Bishop of Westminster a meadow called Checkacre, with four swathes in Denham parish, with their appurtenances, to hold to him and his successors for ever. In 1589 Queen Elizabeth revoked this gift and granted the same land to two private persons—Edward Frost and Henry Best. It will thus be seen that Denham was a parish not too insignificant for the attention and consideration of the highest personages in the realm.

The village of Denham is a small one as regards houses and population. Some few at least of the houses still remain which were built before the art of brickmaking was secured in England, for although brickmaking was well known in Roman Britain it was entirely lost between the fifth and fifteenth centuries. It was more important in the days when it was on the high road from Uxbridge to High Wycombe. Now it reposes in peaceful calm, resting as it were on its laurels after having been the scene of numerous events connecting the present with the early history of this sea-girt land.

Denham Church, situated in the Deanery of Burnham, cannot be said to be conspicuous by virtue of its architecture. The character is Perpendicular, late in style, and it has been restored and much modernised. It has a chancel, nave with aisles, and a square embattled tower containing eight bells at the western end. There are three plain Perpendicular arches between the nave and aisles and a moulded south doorway. A brick in the upper part of the tower bears the date 1678. There are several monuments, including a handsome altar tomb with effigies of Sir Edmund Peckham (1564) and his lady (1570). The tomb is of Caen stone, and the two recumbent figures are full size. Round the base was a Latin inscription which became wholly obliterated. On the south side of the chancel is the tablet in memory of the Sir Robert Peckham whose epitaph has already been quoted. On the wall of the south aisle were several figures painted probably to represent the Last Judgment—the Saviour with a sword proceeding out of His mouth on the one side and a branch of olive or lily, or perhaps a palm, on the other. There are several brasses dating from 1494 to 1612. One by Waller is in memory of Agnes Jordan, Abbess of Syon, who died in 1544. Another—a palimpsest—is in memory of a Franciscan friar, and is in an excellent state of preservation—figure, crest and inscription. There is also a remarkable incised slab for Philip Edelen, preacher, 1656. The old Communion plate was stolen, and in 1824 only a large chalice and a small silver salver remained. The registers date from 1564. The font—ancient, and of Sussex marble, with a large basin supported by an octagon pillar—is enclosed by eight smaller columns. Formerly it stood in the north aisle, but now it is at the west end of the south aisle. The gallery which used to be at the west end has been done away with, and the ancient roof was richly decorated with painted and carved panels bearing the arms of the Bowyer family. Before 1713 four large windows in the chancel had been closed, and one only was left in the east end, and the chancel, nave and aisles were at one time ceiled in compartments. The list of rectors dates back to the year 1218. James Fleetwood, presented in 1669, performed the grateful service of carrying the young Princes Charles and James from the battlefield of Edge Hill and conveying them to a place of safety. For this mark of loyal attention he was created a Doctor of Divinity by the king's special command, and in 1675 he was made Bishop of Worcester. Another rector, William Cooke, became Dean of Ely.

Denham Place, built by Sir Roger Hill in 1667, is a pleasant old house, with a fine chapel, a haunted room, some fine tapestry and other interesting features. Sir Roger Hill was the owner of Bulstrode Manor, in the adjoining parish, and this he sold to the famous and infamous Judge Jeffreys in 1686, when he settled at Denham Place. It was built on the site of the old manor-house inhabited by the Peckham family, and came to the present owner through the marriage of Louis Way with Abigail Locke, the granddaughter of Sir Roger Hill. It is a large brick mansion with a bold projecting cornice. Inside is a beautiful old chapel fitted up with mantled wainscotting and carving in the style which prevailed in the reign of Queen Elizabeth. The ancient gilded seats are decorated with a dove. The window in the chapel is richly emblazoned with family coats-of-arms. There are some fine pieces of tapestry representing Jason and the Golden Fleece, and some elaborate coloured cornices, that of the drawing-room representing hawking, fishing, stag-hunting and fox-hunting on its four sides. Denham Place was frequently visited by Captain Cook and by Sir Humphry Davy, and has been the occasional residence of some of the Bonaparte family.

Denham Church.

Denham Court is approached by a magnificent avenue of lime trees more than half a mile long. It is a fine Elizabethan mansion, and is reported to have been one of the numerous hiding-places of King Charles II. Four curious panel pictures commemorate the affair. The first represents the young king dressed as a scullion in the kitchen; the second shows him among the rushes of the moat; the third shows the turkey, bleeding at the head, which his hostess hung over the panel behind which he was concealed, to keep off the bloodhound which was tracking him; and the fourth is a portrait of the Lady Bowyer who was instrumental in successfully concealing the king. The house has been much modernised, but it retains its ancient moat. Of the surroundings Dryden wrote, towards the close of the seventeenth century, that "Nature has conspired with art to make the garden one of the most delicious spots in England." The great poet was an intimate friend of Sir William Bowyer, and did much of his work at this place.

The illustrations are from photographs by Mr. H. S. Mendelssohn, of Pembridge Crescent, W.

OLD BASING.

THE members of the Newbury District Field Club had a delightful and instructive excursion last week when, says the *Reading Mercury*, they revisited historic Basing after an interval of a quarter of a century. At Old Basing, where they alighted, they were welcomed by Dr. Andrews, of Basingstoke, who courteously conducted them to the ruins of

Old Basing House,

so bravely defended for Charles I. by John Paulet, the fifth Marquis of Winchester, but eventually captured and destroyed by Cromwell. It is a matter of local interest that after the destruction of Basing House the manor of Englefield became the chief seat of the Marquis of Winchester, having passed to him by virtue of his marriage with Lady Honora de Burgh. The estate subsequently came into the possession of the Wrighte family, and through the widow of Powlett Wright passed into the hands of the Benyon family in 1745. The brave defender of Basing House died at Englefield on March 6, 1674, aged seventy-six, and the monument erected to his memory in the beautiful parish church (dedicated to St. Mark) is one of the most noteworthy features of that sacred edifice.

Sir Belthazar Gerbier, the architect, who failed to induce the marquis to rebuild Basing House, published in 1663 a treatise entitled "Counsel and Advice to Builders," and in his dedication to the marquis he takes occasion to commend Englefield House, which he describes as "a well-seated palace, with a wood at its back like a mantle about a coat-of-arms," and adds that "its present satisfaction must diminish its owner's grief for the loss of Basing."

A description of the siege of Basing Castle, kept by the Marquis of Winchester for the service of the king against the forces of the Parliamentary party under the command of Colonel Norton in 1644, was first transcribed in recent times by Mr. Walter Money, F.S.A., for many years hon. secretary of the Newbury District Field Club, who copied it from the original.

The historic spot was, according to the opinion of authorities, originally the site of a Celtic fort, which became the nucleus of the stronghold which played such a notable part in the Civil War. The first paragraph in the diary referred to is as follows (spelt as in the original):—

"Basing Castle, the seat and mansion of the Marquisse of Winchester, stands on a rising ground, having its forme circular, encompassed with a brick rampart, lyned with earth, and a very deep trench, but dry. The loftie gate-house with foure turrets looking northwards, on the right whereof without the compasse of the ditch, a goodly building containing two faire courts, before them is the Graunge, severed by a wall and common roade, againe divided from the foot of Cowdrey's Downe by meades, rivulets and a river running from Basingstoake, a mile distant from the west, through Basing towne, joyning upon the east, the south of the Castle hath a parke, and toward Basing towne a little wood, the place seated and built as if for Royaltie, having a proper motto—*Aymez loyaulté.* Hither (the Rebellion having made houses of pleasure more unsafe) the Marquisse first retired hoping integrity and privacy might have here preserved his quiet. But the source of the true villiany, beareing down all before it, neither allowing newtrality or permitting peace, to any that desired to be lesse sinfull than themselves, enforceth him to stand upon his guard, which with his gentlemen armed with six musquets (the whole remainder of a well furnished armory) he did so well, that twice the enemies attempts proved vaine."

Dr. Andrews led the way over the bridge spanning the Basingstoke Canal—partly traversing the course of the ancient moat which surrounded the garrison stronghold on the hill—to the north gatehouse, of brick, of the fifteenth century. This was formerly covered with ivy, which was removed to make more clear the nature of the structure, embracing the arms of the Paulets above the doorway—three swords in pale points in base. The crest meets one in many places in this locality. A chalkpit north of the village is known as "Oliver Cromwell's Dell," and a field near the bridge over the canal is called "Slaughter Close." Dr. Andrews described as he went the foundations of the gatehouses and other buildings which had been brought to light as a result of the excavations directed by Lord Bolton, and the positions of the main buildings which in former centuries had stood on this commanding site, the citadel itself occupying what is now a vast amphitheatre, surrounded by high mounds of earth, against which are built strong walls. The place was only accessible by way of drawbridges, which were protected by gatehouses, some of which had four hexagonal towers, as shown by the foundations unearthed. It was therefore a formidable station in former times, commanding the main road from London to Exeter. Dr. Andrews took the party into the spacious courtyard, where in former years, since the razing of the massive pile, corn had actually been grown and cricket matches played, but the excavations had brought to light all the structural work in the basement, including the roomy cellar which was beneath the main hall of the house in the centre of the site. It was stated that in the "undercroft" was a representation of a cavalier, fully armed, and also a man-of-war of the period, drawn on the wall, probably by one of the prisoners in the castle. The kitchens, with the ovens, &c., were also shown, as were the arrangements for the drainage of the castle. In 1569 William Paulet, of Hinton St. George, Somersetshire, who had inherited Basing from the family of St. John, and had added dignity to his family by being made comptroller and treasurer of the household of Henry VIII., entertained Queen Elizabeth, who made a confession to the infinite disgust of Raleigh, Essex and other Court gallants, "By my troth, if my Lord Treasurer were but a young man, I could find it in my heart to love him for a husband, before any man in England." This marquis died in 1571, at the age of eighty-seven, enormously wealthy, and leaving 103 living descendants. He rebuilt Basing Castle in a style of great magnificence. The old home was left standing within the great earthen mounds, and was known thenceforth as the Old House. A stately gatehouse led into it, having a tower not unlike that of Winchester College. To the right and left of the gatehouse stretched two wings of noble proportions, bearing in all directions the proud Paulet motto *Aymez loyaulté*—Love loyalty—which also flashed and blazed in every window, giving the stately pile the name of Loyalty House. There was a bowling-green, whereon the noblest in the land were wont to disport themselves. The gardens were extensive and well kept, and figs and grapes and other choice fruits were grown in abundance. The well-stocked orchard served as a burial-place for the slain during the siege. These outlying parts of the property were duly inspected on Monday, and interest was excited by a visit to the ancient dove-cot, the proud sign of the ownership of the manor. The whole building was so costly to maintain that ere long the Paulet family pulled down the portion on the left of what was then the new gatehouse. John, the fifth and loyal marquis, was a man of letters and a Roman Catholic. The marchioness was the daughter of the Earl of St. Albans and sister of the Earl of Essex, who commanded the Parliamentary forces. She shared in all the dangers of the siege, and saw a maid killed by a shell, she herself having a very narrow escape. Together with the other ladies of the garrison she aided in casting into bullets the lead stripped from the roof and turrets of the house, and it was largely owing to the entreaties of this heroic lady that Colonel Gage was despatched from Oxford to the relief of her beleaguered husband. This officer subsequently met with a soldier's death at Culham Bridge, near Abingdon. Among the prisoners captured at Basing House was the famous architect, Inigo Jones, who is believed to have designed the east window of Basing Church. The gallant marquis received neither honour nor emolument at the Restoration, notwithstanding the great loss he had sustained.

On leaving the ruins, Dr. Andrews conducted the visitors to a building of large proportions, known as "The Barn," but which is believed to have been built by the Paulet family as a riding-school. Its walls, which are 3 feet in thickness, carry a beautiful roof of carved oak, very similar in style to that of Westminster Hall. As was remarked on the spot, it could readily be converted into a fine ecclesiastical building, but with such a capacious parish church "The Barn" is not likely to be required for religious purposes.

Old Basing Church.

An architectural memoir of the church by the Rev. Reginald A. Cayley, with an account of the armorial bearings and monuments of the Paulet family, the Dukes of Bolton and Marquisses of Winchester, by Mr. S. J. A. Salter, F.R.S., was read. The author mentions that "Old Basing Church, whose fate at one time was so closely linked with its near neighbour, Basing House, and of which we might have once said, 'Mantua, væ miseræ nimium vicina Cremonæ,' still survives to this day, to tell us no mean tale of the changes and chances that have befallen it in the 800 years of its past life. It seems strange that we have no record of the foundation of the church, nor is mention made of it in the Domesday Survey. That there had been a church here long before the Norman Conquest we may feel sure. The fortifications of Basing House are very ancient—the great mound and ditch are believed with good reason to be pre-Roman, and we may well believe that it continued to be a stronghold until dismantled in the seventeenth century. Domesday Survey certainly records three mills, so I think we may conclude that the original church of this early settlement had been destroyed by the Danes after King Alfred's defeat here, A.D. 871, and had never been rebuilt. It must, however, have been very shortly after the Norman Conquest that the nucleus of the present church was begun, and though there are but few remains of this eleventh-century building, yet what there are are of the utmost importance, inasmuch as they give a key by which we can solve the difficulty of understanding the various changes and alterations of ground plan and elevation through which the church has gone from that time to the present. The church now consists of a nave and aisles of three bays, a central tower and chancel. The two latter features are flanked on either side by chapels extending from the nave to the extreme east end of the chancel, and as wide as the aisles, the south chapel being rather wider. The nave and its aisles, which are nearly as wide as the nave itself, are all covered with high-pitched framed roofs of almost equal height. The general effect is that of Transition work, dating from about 1180. The windows, north and south, are Perpendicular, about 1430-50, those to the west being a little later in character. The nave arcades consist of lofty and massive octagonal piers and responds, whose bases and capitals are peculiar. The east and west arches of the tower are lofty, and of the same detail as the nave arcades. The north and south arches of the tower are low Norman ones, very plain, and of the same massive, yet structurally weak, type that we find in the transept of Winchester Cathedral. The building in its present condition forms a parallelogram—a line drawn north and south through the western arch dividing it into two almost equal parts." Mr. Cayley, in considering what the eleventh-century church was, and how it gradually assumed its present form, states that it had a central tower whose flint walls on the north and east sides still exist nearly up to the belfry chamber; but on the west and south they do not reach quite so high. To the east of the tower there was a short apsidal chancel, and the squints are still *in situ*, and one of them gave a view of the high altar from the north transept. The aisles of the nave seem to have been rebuilt towards the middle of the fifteenth century. It was quite at the end of this fifteenth century (1480-1500) that the next work was undertaken. This was the destruction of the north transept as an independent feature, and the erection, on its site, of the present magnificent north-east chapel, and it is here that we first begin to find that display of armorial bearings for which this church is remarkable, portraying the numerous alliances of the Paulet family with the heiresses of other great houses. The great peculiarity of this chapel is that the four north windows are filled with wooden tracery. The rev. author deals with other details, and describes the memorial tablets, tombs, &c.

The Vicar called the attention of the visitors, while assembled outside the church, to two carved heads on either side of a buttress, which are of great interest, inasmuch as they are portraits of Henry VIII. and his queen, Catharine of Aragon. In the civil war period, however, Basing Church was occupied by the Parliamentary forces during the siege of Basing House, but, all things considered, it is surprising how comparatively little damage was done. The restorers of the damaged church endeavoured throughout to preserve everything they possibly could of the church of their fathers, and to bring it back to the utmost of their power to the condition in which they remembered it. This work must have been completed in 1666. The last restoration took place in 1874, when a new chancel roof was erected and other necessary works were carefully carried out under the direction of Mr. T. H. Wyatt.

A memorial in the shape of a beautifully-engraved brass has been fixed in the south chapel, bearing the names and dates of the interment of the various members of the Paulet family at Basing, the first recorded being that of Margaret, Countess of Wiltshire, in 1682. It is noticeable that on this tablet the name Paulet is, as pointed out by Mr. Keyser, spelt in no less than six different ways. In the same chapel there is a finely-executed memorial, by Flaxman, to Henry, the sixth Duke of Bolton, premier marquis of England and Earl of Wiltshire, who died on December 25, 1794. Among the families who also settled at Basing were the

Poynings, St. John of Sherborne and the Delameres, the latter being at one time residents at Aldermaston. The Vicar called attention to a fine Jacobean pulpit in its original state, and not gilded and coloured as in the case of Newbury Church.

INSTITUTE OF PUBLIC HEALTH.

THE Royal Institute of Public Health announces that a congress on that subject will be held in London from July 19 to 23, and that papers will be read and discussion held under the various sections of (A) preventive medicine, (B) municipal administration of the Education Acts, (C) child study and school hygiene, (D) engineering and building construction, (E) bacteriology and chemistry, (F) veterinary hygiene, (G) tropical hygiene, and (H) naval and military hygiene. Sections A to D will meet at the Polytechnic, Regent Street, sections E to H at King's College, and an inaugural meeting under the presidency of Lord Londonderry, the president of the congress, will be held at His Majesty's Theatre at 3 P.M. on the 19th, by the permission of Mr. Beerbohm Tree, on which occasion the public, other than members of the congress, will be admitted to the upper circle of the theatre. The general plan of the congress will be like that of the meetings of the British Association for the Advancement of Science, in the sense that membership is attainable by subscription, and that a variety of entertainments and excursions are to be offered to the members. Particulars and programmes may be obtained at the office of the Institute in Russell Square.

SHEFFIELD UNIVERSITY.

THE new buildings of the Sheffield University, which were opened by His Majesty on Wednesday, are placed along three sides of a quadrangle, the fourth being available for an extension or library hereafter. On the west side of the quadrangle, and facing the park, is the building for the arts and science departments. This appears as a three-storeyed structure. It has slightly projecting wings, with gables near each end, and a central gable also. The medical department is on the north side of the quadrangle. This is somewhat peculiar. It has been found necessary to use plate-glass windows, which have been arched and grouped with buttresses between, the expedient having been adopted to meet what are, of course, very unusual requirements. The entrances to the site are by a carriage drive to the principal entrance to the building in Western Bank, and by one gateway from the lane at the back leading from Winter Street, which is only intended for use for cartage. It is hoped that there will be another gate from the park, which will only be unlocked during certain hours. The principal entrance to the building is in Western Bank, and it will be controlled by the porter's office. It leads by the principal staircase to the hall and offices, and by crossing the quadrangle to the four subsidiary staircases in the angles of the building leading to each of the departments, and also by a corridor from the entrance hall leading to the same subsidiary staircases and to all departments except those of bacteriology and public health. The principal staircase has steps 7½ feet wide, and the subsidiary staircases 5 feet wide. These are all straight and easy and thoroughly lighted. The subsidiary staircases being at the corners each one serves two buildings, and each building has two staircases so as to afford a secondary outlet to each department in case of fire. The corridors in the front building are 10 feet wide, the same width as the corridor to the reception-rooms at the town hall, and the corridors to the arts and science and medical department are 8 feet wide.

Increased Accommodation.

The heights of the rooms are 14 feet from floor to ceiling everywhere in the building, except upon the second floor, where in some of the large laboratories and lecture-rooms the space in the roof is utilised for increased height. Practically three times as much accommodation has been provided as now exists in the present college buildings, and the general and administrative, arts and sciences and medical departments contain a total of 146 rooms. The fall in the levels of the site is 19 feet from west to east, and the fall in the footpath in Western Bank is 17 feet. This has led the architects to design the building with lower and upper ground floors, the lower ground floor being 6 feet above the footpath at the existing entrance gates and right in its relation to and appearance from Western Bank, and the upper ground floor about 3 feet above the level of the existing house floor and right in relation to the park. The exchange with the Corporation and rectification of the park boundary enables the Corporation to acquire land sufficient to make two very desirable improvements, in the first place to take away the sharp corner of the principal approach to the park, and in the second to do away with an ugly projecting corner into the park. The University give in exchange land which is part of a plantation, and will remain an open space hereafter, and continue to be as useful to the park as it now is.

The Departments.

As already mentioned, the general and administrative department is provided for in the front building facing Western Bank. It contains the hall, offices, common-rooms, refectories, &c. The principal entrance is the main feature of this part of the structure. The opening is arched, and is 9 feet wide and possesses wrought-iron gates. The porch is 18 feet wide, and has an inner screen of stone, with doors leading into the entrance hall. The entrance hall is also 18 feet wide, and is overlooked by the porter's office. It possesses doors which lead into the men's and women's cloak-rooms, and arched openings to the right and left to corridors. The men's cloak-room is intended to serve for the whole college, and to be in charge of the porter, whose office opens out of it. The smoke-room possesses a bay window, and opens out of the men's cloak-room. The men's common-room is in size 44½ feet by 21 feet, and is on the north side of the west corridor, with windows looking into the quadrangle. The women's cloak-room opens out of the entrance hall, and the women's common-room is entered through their cloak-room. It is in the extreme corner of the building, and is as private as practicable. The lady assistants' common-room is adjacent to this room, and the professors' common-room and the post graduates' common-room are both on the north side of the east corridor, which may be used as a cloak-room. The office opens out of the main corridor at the top of the principal corridor on the upper ground floor. In this department also there is a registrar's-room, a strong-room, an office store, principal's-room and council-room. The hall is in size 100 feet by 40 feet. It is 28 feet high at the eaves and 48 feet high to the ridge of its open oak-timbered roof; it has windows upon both sides and oriel windows at each end, so that there is abundance of light for examinations.

The Arts and Science Department.

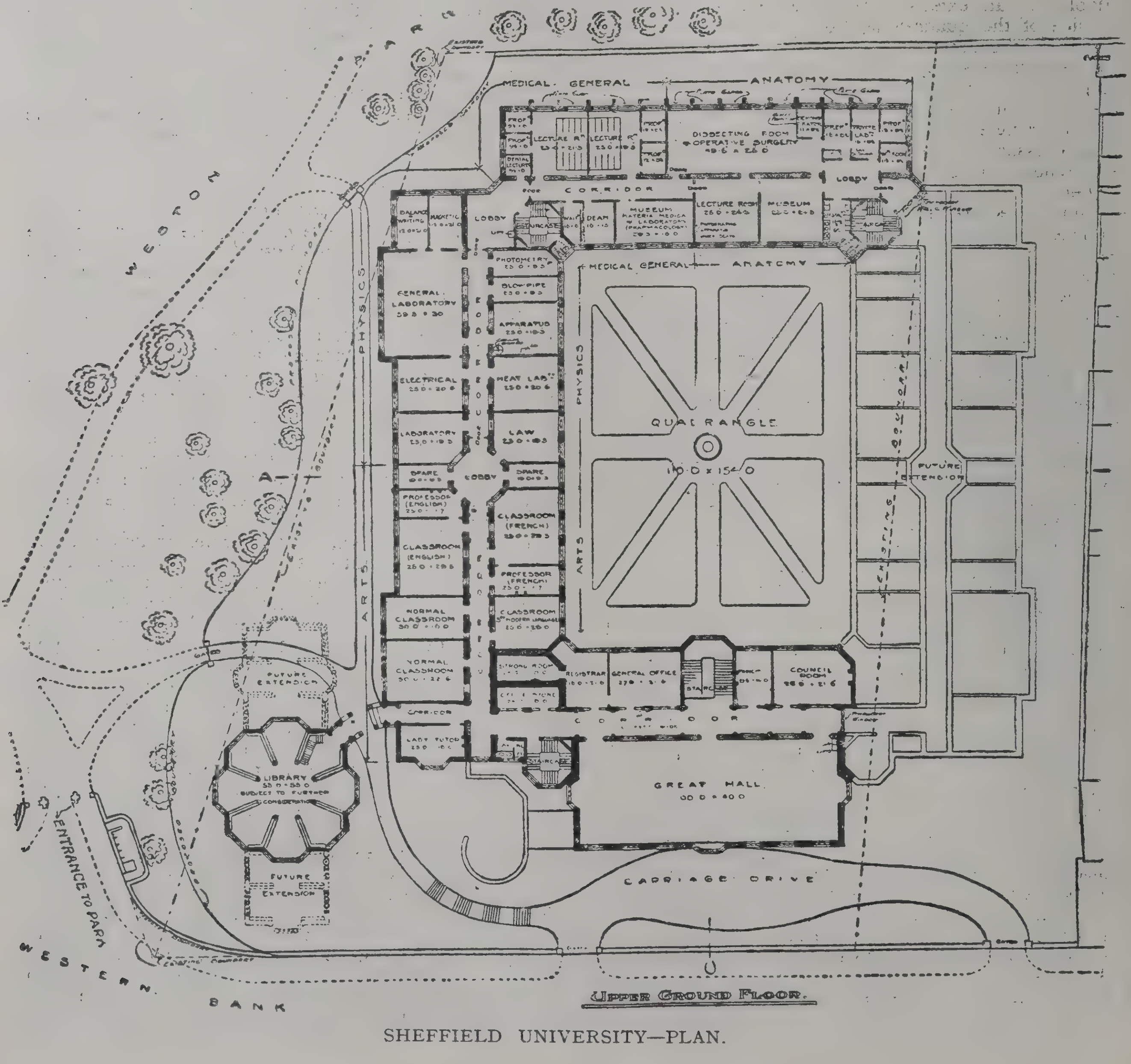
The building for the arts and science department, the location of which has already been described, provides accommodation for the arts, physics, chemical and biological departments, and is on the west side of the quadrangle. Each department can be approached without passing through any other department and can be locked up independently. The building is 229 feet by 65 feet, it is four storeys high on the quadrangle side and three storeys on the park side, the ground on that side being 12 feet higher than the quadrangle. The arts department, including classes, mathematics, history, languages, law, commerce and the normal school has one large lecture-room, 39 feet by 30 feet, which will seat 120 students; fourteen classrooms, seating from thirty-two to fifty-six students each, and eight rooms for professors, which are placed next to their respective classrooms, sufficient for the professor and a small class of advanced students. The arts department is in the south end of the building, on the lower and the upper ground floor, and contains altogether twenty-two rooms. The physics department is on the same three floors as the arts department, but at the north end of the building. It contains one large and one small lecture-room, with preparation-room, professors'-room, demonstrators'-room, one large laboratory, and five laboratories of various sizes, and eight other rooms and workshops on the lower ground floor, making altogether twenty-three rooms. The chemical department is on the top floor at the north end of the buildings. The accommodation provided is a large lecture-room, seating 110 students, a small lecture-room seating thirty-seven students, an elementary laboratory accommodating 120 students, an advanced laboratory accommodating thirty students, professors' and demonstrators'-rooms, five other rooms, and also rooms in the roof and on the lower ground floor, or, altogether, thirteen rooms. The biological department is on the top floor at the south end of the building. The accommodation provided is a lecture-room seating seventy-four students, a large general laboratory, a botanical laboratory, a zoological laboratory and a professors'-room. In the tower is a museum, with gallery and top light, also botanical, zoological and assistants'-rooms, and a greenhouse on the roof, with store and dark rooms.

The Medical Department.

The building set apart for the medical work of the college provides accommodation for the medical, general, anatomical, physiological, pathological, bacteriological and public health departments; also for the Medico-Chirurgical Society, and for the caretaker and heating apparatus. It is at the north end of the quadrangle. The building is 156 feet long by 56 feet wide, and it is four storeys high. It has windows facing the park, and some of them are in single sheets of plate-glass 10 feet high by 5½ feet wide, this being rendered necessary for the scientific purposes of the departments. The north front will be a conspicuous part of the building as seen from the park near the ponds, and these large plate-glass windows are therefore arched and have buttresses between, so as to be as little objectionable in appearance as possible. The Medico-Chirurgical library is near the entrance. The medical general department is on the upper ground floor at the west end of the building. The building contains a museum for materia medica, which is to be used also as a laboratory for pharmacology. Altogether there are ten rooms in the department. The anatomical department is on the upper ground floor at the east end of the building. The accommodation provided is a lecture-room seating fifty students, a museum with gallery, dissecting-room, with professors' and demonstrators'-rooms, three other rooms and special lavatory, together with a large storage-room on the lower ground floor, entered from the yard at the back of the building, which is in direct communication with the lane, and there is a lift for communication with the preparation-room adjoining the dissecting-room. The physiological department takes the whole of the first floor in the medical department except one room. It has a lecture-room with seating for 57 students, histological and experimental laboratory 68 feet by 25 feet, chemical laboratory 48½ feet by 25 feet, general research laboratory, professors' and demonstrators'-rooms, four other rooms, work-room and animal-room in roof, and projection-room on lower ground-floor. Altogether there are 13 rooms in this department. The pathological department is on the top floor at the west end of the building. There is a laboratory 30 feet by 26 feet, a research-room, professors' room, preparation and store-rooms, and a museum, with store-room and photographic-room in the roof and a special room on the lower ground-floor. Altogether there are nine rooms in this department, and it has joint uses with the bacteriological department of a lecture-room with seating for 60 students. The bacteriological department is on the top floor at the east end of the building. It contains a laboratory, a small laboratory, a preparation-room, a research-room, an incubator-room and a store-room, with photographic and specimen-rooms in the roof. Altogether there are nine rooms in this department, and it has joint uses with the pathological department of the lecture-room for 60 students. The public health department has a museum on the lower ground-floor 29 feet by 25 feet.

Materials and Construction.

The external walls of the structure are of brick, faced with special bricks supplied by the Accrington Brick and Tile Company, Ltd. The dressed stone is from the celebrated Warwick quarries, Huddersfield, and is like the material used at the Mappin Art Gallery. The internal finish of the walls consists of buff-coloured bricks with salt-glazed brick dados. This scheme has been adhered to except in the case of the great hall, which has an oak dado with stone facing above it. The windows have stone heads, sills and mullions, with two iron casements. The entrance



SHEFFIELD UNIVERSITY—PLAN.

hall is lined with buff bricks and bands of the old stone from the old house. This stone is of exceptional quality, and beautifully marked with veins like marble. The doors and screens of the entrance hall, great hall and administrative offices are of oak. The council-room has an oak dado and ornamental plaster ceiling. The professors' common-room has an oak dado with a genuine sixteenth-century plaster ceiling refixed from old Norton Hall, and presented by the Duke of Norfolk to the college. All the basement and portions of the lower ground floors are of cement concrete covered with 1½-inch red deal wood blocks or Venetian mosaic, except in the workshops, store-rooms and cellars. All the upper floors are of steel girders, wood joists and two thicknesses of floor boards with felt between, with a few exceptions. The roofs are covered with green Westmorland slates plastered on the underside, except in the case of the great hall, which has an open timbered roof of American oak.

The Sheffield Gas Company are lighting the Firth Hall, the entrances, corridors and council-room. The electric supply department are lighting the class and lecture-rooms and the laboratories. Mr. J. G. D. Armstrong is the clerk of the works and Messrs. Gibbs & Flockton are the architects.

TESSERÆ.

The Serpent Myth.

In the old legends and superstitions of Germany and Scandinavia the serpent or dragon is a very favourite myth, and passes for the guardian of hidden treasures. From a line of Persius we gather that it was the custom at Rome to paint two snakes on any wall it was wished to preserve from defilement. The serpent was sacred to Odin, and Scandinavian mythology has assigned the names of Ofnir and Sfœnir to the two serpents of this god who guard the nether world. In this perhaps we have a clue to the serpent ornamentation of the Bauta and Runic stones, of the old Scandinavian ships and of articles of dress. Again, the serpent was known to the German nations as the emblem of the soul—that is, of life, health and immortality. In this light indeed it was of old sacred to Æsculapius among the Greeks and Romans. Under the image of a golden serpent the Lombards, who came from the north of Germany, appear to have worshipped Odin himself. The Lithuanians too seem to have worshipped the serpent. In fact, it would appear that the tribes of Northern Germany and Sclavonia generally regarded the serpent with feelings of superstitious reverence and awe, which in heathen minds would readily induce actual worship (schlangendienst). On this subject Dr. Grimm observes, "It would be desirable to collect all the notices of the serpent forms (schlangenbildungen) of antiquity, for the purpose of establishing inductions." In strong relation too with these sculptured guardians of tombs stands the serpent Caduceus of Mercury.

Reynolds and Gainsborough.

Reynolds once observed that it was impossible for two painters in the same line of art to live in friendship. This was probably uttered in a moment of peevishness, when he had been thwarted by some brother of the calling, and was not intended for a deliberate opinion. It is, nevertheless, nearer the truth than the disciples of art are willing to admit. What is the secret history of the Royal Academy but a record of battles and bickerings, of petty disputes and trifling animosities? Hogarth lived before it was founded, an object of mingled envy and terror. Gainsborough disliked Reynolds—Reynolds had no goodwill to Gainsborough—Wilson also shared in this unamiable feeling, and Barry was unwilling to forgive anyone who painted better than himself. These are masters and princes of the calling; their open feuds and private warrings would fill a volume; the animosities of the lesser spirits are unworthy of notice. Sir Joshua sat to Gainsborough for his portrait; before it was finished he was taken ill and went to Bath. Of his recovery and return he gave intimation, but no notice was taken of it, and the picture was never finished. Some unnatural fit of goodwill had brought them together. On reflection they separated and continued to speak of one another after their own natures—Gainsborough with open scorn, Reynolds with courteous, cautious insinuation. The cold and carefully meted out courtesy of the one little suited with the curious mixture of candour and caprice in the other, and like frost and fire, which some convulsion casts into momentary contact, they jostled and then retired from each other, never more to meet till Gainsborough summoned Reynolds to his death-bed. They had, however, a better sense of natural dignity than to carry their personal animosities, as Barry afterwards did, into the Council, and if they differed in life, so in life they were mutually reconciled. Peace be with their memories.

The Cathedral of Bazas.

A few miles from Langon, in the South of France, is the town of Bazas, the cathedral of which is deserving of more attention than it has received. It is of mixed styles, but chiefly of the thirteenth century. The plan is oblong, with aisles and an apse, no distinction between the nave and choir, but the apse is surrounded by an aisle and chapels, and there are low chapels between the buttresses of the nave. The work seems to have been carried on for a long period; part is late in the thirteenth, and another part early in the fourteenth century, but it has been a good deal modernised in the seventeenth, and the date of 1675 is painted on a base at the east end. The west front is very fine and rich, the arches and tympanums fitted with sculpture, among which are the signs of the zodiac, with the operations of each month corresponding. But four large panelled buttresses have been introduced in the seventeenth century, and two of the months are destroyed. The nave has the pillars chiefly rebuilt or refaced after the mutilation by the Huguenots, and the vault is also modern, but the side walls with the shafts attached and the vaults of the aisles are original, with some of the windows. In the north aisle is a tomb of the end of the twelfth century, with a canopy, on which are some curious incipient crockets. The rest of the work is chiefly of the Flamboyant style. The tower which stands on the north side of the west front is a fine specimen of that style, with a rich crocketed spire, and there is a good Flamboyant round window in the west front. The upper part of the front is, however, modernised. Nothing certain appears to be known about the history of the cathedral, which was founded at a very early period, and was formerly much more important than it is at present, the bishopric being now united to that of Bordeaux.

The Collection of Charles I.

Cromwell, with all his talents, had little feeling for the higher excellency of art. His chief instruction to the painter of his portrait was to remember the warts and moles. He was not insensible, however, that lustre is proper to a court; and as soon as he became possessed of absolute power, put an end to all sales of the royal furniture and paintings. For many fine works this order came too late; they had been dispersed beyond recall. Some of the best were bought by the King of Spain, and arrived at Madrid at the same time with the ambassadors of the exiled king—a circumstance which puzzled sorely the Spanish etiquette. Many were sold to persons connected with the old court, many to mere picture-dealers and some to the more sensible and spirited of the Puritans. The celebrated Colonel Hutchinson was an extensive purchaser; Oliver Cromwell's name appears early in the list of buyers. Some had the misfortune to purchase just when the Lord-General was about to assume sovereign power, and their bargains were declared void. Into a dozen galleries Charles had collected upwards of 1,200 works of art; most of these were dispersed by public sale during the years from 1645 to 1652, and they produced to the republicans 38,000*l.* The prices of some of the most celebrated pictures were as follows:—The Cartoons of Raphael, 300*l.*; the "Royal Family," 150*l.*; "King Charles on Horseback," 200*l.*; the "Triumphs of Julius Cæsar," 1,000*l.*; the "Twelve Cæsars of Titian," 1,200*l.*; the "Muses," by Tintoret, 100*l.*; the "Nativity," by Giulio Romano, 500*l.*; "Sleeping Venus," by Correggio, 1,000*l.*; the "Venus del Pardo," by Titian, 600*l.*; "Venus attired by the Graces," by Guido, 200*l.*; a "Little Madonna and Christ," by Raphael, 800*l.*; "St. George," by Raphael, 150*l.*; "Our Lady, Christ and Others," by Palma, 200*l.*; "Erasmus and Frobinius," by Holbein, 200*l.*; "Satyr Flayed," by Correggio, 1,000*l.*; "Mercury teaching Cupid to Read in the Presence of Venus," by Correggio, 800*l.*; the Head of King Charles, a bust by Bernini, 800*l.*; and "Christ washing the Feet of His Disciples," 300*l.* There is no doubt, after all, that very many of the royal pictures remained in England. At the Restoration, when Pepys visited the royal gallery, he declares that he missed few of his old favourites, and we see by the catalogue of James II. that the Crown was in his time repossessed of many of its ancient paintings. But the unfortunate fire at Whitehall completed what the Puritans did imperfectly and destroyed a vast number of noble works.

GENERAL.

The Council of the Surveyors' Institution have decided to offer annually the following scholarships, tenable for three years by students of the Institution, viz. one of 80*l.* per annum at Cambridge University, one of 50*l.* at the University College of North Wales, Bangor, and one of 50*l.* at the Armstrong College, Newcastle-on-Tyne. Holders will be required to take the Natural Science Tripos and the examinations for the Diploma in Agriculture at Cambridge, or the equivalent for those examinations at the other Universities. The first examinations will be held at Cambridge, Bangor and Newcastle-on-Tyne respectively during the summer of 1906.

The Essex Field Club held a meeting at Easton Lodge on Saturday to inaugurate a scheme for a photographic and pictorial survey and record of Essex, the object being to make a collection of pictures of notable places and events in the county, and to file them in the club's museum at West Ham.

The Glasgow and West of Scotland Technical College invite applications for a post about to be created in the administrative department. The principal duty of the officer appointed will be to secure the co-ordination of the work of the continuation classes in mathematics, engineering drawing and building construction, conducted by the School Boards of Glasgow and Govan, with the college evening classes in the same subjects. Candidates must have a sound knowledge of two of the subjects named, as well as experience in teaching them. Salary not less than 300*l.* per annum. Applications must be sent not later than July 29.

Sir E. Egerton, the British Ambassador to the Quirinal, has interviewed the Cavaliere Marchionni, the manager of the hard-stone works in Florence, with reference to securing the services of a mosaic artist to restore the throne in the Palace of the Moghuls at Delhi.

The Redernsche Palace, which is one of the principal private mansions in the Unter den Linden, Berlin, is to be demolished in order to erect a large hotel on the site. It was designed by Schinkel in 1829 and resembled a Florentine palace.

The Architectural Association will hold an exhibition of work in the Architectural Day and Evening Continuation Schools at 18 Tufton Street on Friday, July 21.

The Corporation of Newcastle-upon-Tyne invite applications for the appointment of city engineer and town surveyor at a salary of 800*l.* per annum, rising 100*l.* per annum to 1,000*l.* Applications must be submitted not later than August 5.

Messrs. Rowand Anderson & Paul, architects, Edinburgh, presented plans to the Culross Dean and Guild Court last week for the restoration and repair of Culross Abbey. The plans were passed subject to alterations. The abbey was in existence in 700. The cost of the present scheme is 5,000*l.*

"**Battersea Bridge,**" a nocturne by J. McNeill Whistler, has, it is understood, been bought for the nation by the National Arts Collection Fund at a cost of 2,000*l.*

A Sub-committee of the Edinburgh Town Council last week considered a letter from Mr. H. O. Tarbolton, asking a donation to the autumn exhibition of the Edinburgh Architectural Association. The committee recommended a vote of 10*l.* from the residue grant, at the same time expressing the regret of the Corporation that the time of meeting of the Association was inconvenient for an official reception.

Mr. J. H. Hopkinson, M.A., has been appointed lecturer in classical archæology at Manchester University. Mr. Hopkinson is a late Craven Travelling Fellow of Oxford University, and has conducted investigations at the British school in Athens, in Crete, and elsewhere.

A Picture by Franz Hals has been cut from the frame and stolen from The Hague Royal Picture Gallery. This is the portrait of a young man wearing a broad collar, No. 618, on oak panel, 9 inches by 7 inches, which was purchased in Amsterdam in 1898 for 5,000 florins.

A Roman Mosaic Floor of great beauty was discovered at Dorchester, in the heart of the borough, on the site of a new schoolroom in Durngate Street. The floor is about 12 yards square and is in a perfect condition of preservation. The design is unusually elaborate, vases, serpents, leaves, &c., entering into the scheme. The tesseræ are small and of four colours, in red, blue, white and yellow.

The Edinburgh Architectural Association held their annual excursion on Saturday at Dunkeld, where they visited Dunkeld Cathedral, Murthly Castle and Stobhall. The dinner took place at Perth.

Mr. William Kerr, who designed many buildings in Ayr, died lately in his forty-third year. The cause of death was an apoplectic seizure.

The Cardmakers' Company have awarded in the annual competition for designs for the backs of playing cards the first (H. D. Phillips) prize of ten guineas to Mr. W. H. Riley, for a design depicting Lord Nelson, with the *Victory* in the background; the second prize of five guineas goes to Mr. G. Drummond, the third of three guineas to Mr. S. W. Cox, and the fourth of two guineas to Miss Eleanor M. Welch. An extra prize of five guineas, given by Mr. W. B. M. Bird (the past master), has been granted to Miss S. Ruth Canton.

Sir William Forwood, chairman of the executive committee of the Liverpool Cathedral Fund, has invited a number of guests to inspect the foundations of the cathedral, St. James's Mount, on Tuesday, July 18.

The Berwick Town Council have agreed to lease as a building site part of the ancient Edwardian walls adjoining the portion which has been taken over by H.M. Board of Works for preservation. This will entail the filling-up of a further piece of the old fosse, but will not interfere with the masonry of the fortifications. A letter was submitted from the Society of Antiquaries, London, deprecating the adoption of any steps in the repair of the Old Berwick Bridge that would entail any alteration in the appearance of a monument of such interest and importance. The communication was laid on the table.

The "Casa del Cappelletti" at Verona, better known as the "House of Juliet," was sold by auction last week, the upset price being 300*l.* It was purchased by the commune for nearly 600*l.* and will become the property of the town. It is to be repaired and used as a museum.

The Council of Birmingham University have appointed Professor Stephen M. Dixon, M.A., to the recently established chair of civil engineering. Professor Dixon, who graduated B.A. at Trinity College, Dublin, at present holds the chair of civil engineering in the Dalhousie University, Nova Scotia. Mr. M. O. B. Caspari has been appointed lecturer in Greek language, literature and archæology.

The Restoration of Iona Cathedral having been so far advanced as to allow of Divine service being conducted in the choir, the trustees have arranged to hold the ordinary service of worship on Sundays from July 16 to September 10 inclusive in the cathedral.

The British Archæological Association open their sixty-second annual congress at Reading on Monday next. The inaugural address will be delivered by Mr. Charles E. Keyser, president of the Berks Archæological Society. The excursions include—on Tuesday, expeditions to Silchester, Pamber, Aldermaston, Padworth and Ufton Court; on Wednesday, to Newbury, the Vale of White Horse, Uffington, Sparsholt, Wantage, &c.; on Thursday, a river excursion to Wallingford; on Friday, to Culham, Sutton Courtenay and Abingdon; and on Saturday, to Newbury, Shaw House, Donnington Castle, &c.

During Excavation in the Market Square at Dover an interesting archæological discovery has been made, the ruins of the east end of an ancient church being disclosed. They have been traced as part of the ancient church of St. Peter, which, in the twelfth century, was connected with the Priory of St. Martin. The church was desecrated in the year 1580, and was granted by Queen Elizabeth to the "Mayor and Jurats," to be sold, in order to obtain funds for the repair of the harbour.

The Sheffield Corporation have opened the new Weedon Street bridge over the Don, which provides communication between Tinsley and Brightside. The bridge is built of steel and masonry; squared masonry piers and abutments support heavy steel girders, which on their part carry a steel trough decking on which the paving of the roadway itself is laid. Two circumstances governed the design, one the necessity for ample headway under the bridge, together with easy gradients for the approaches, and the other the necessity for making provision for great weights passing over the structure. The heaviest pieces of ordnance manufactured in the district may be taken over it with absolute safety. The work, which was carried out under the supervision of the city surveyor (Mr. Wike) by Mr. Craig, of Manchester. The cost of the work amounts to 12,500*l.*

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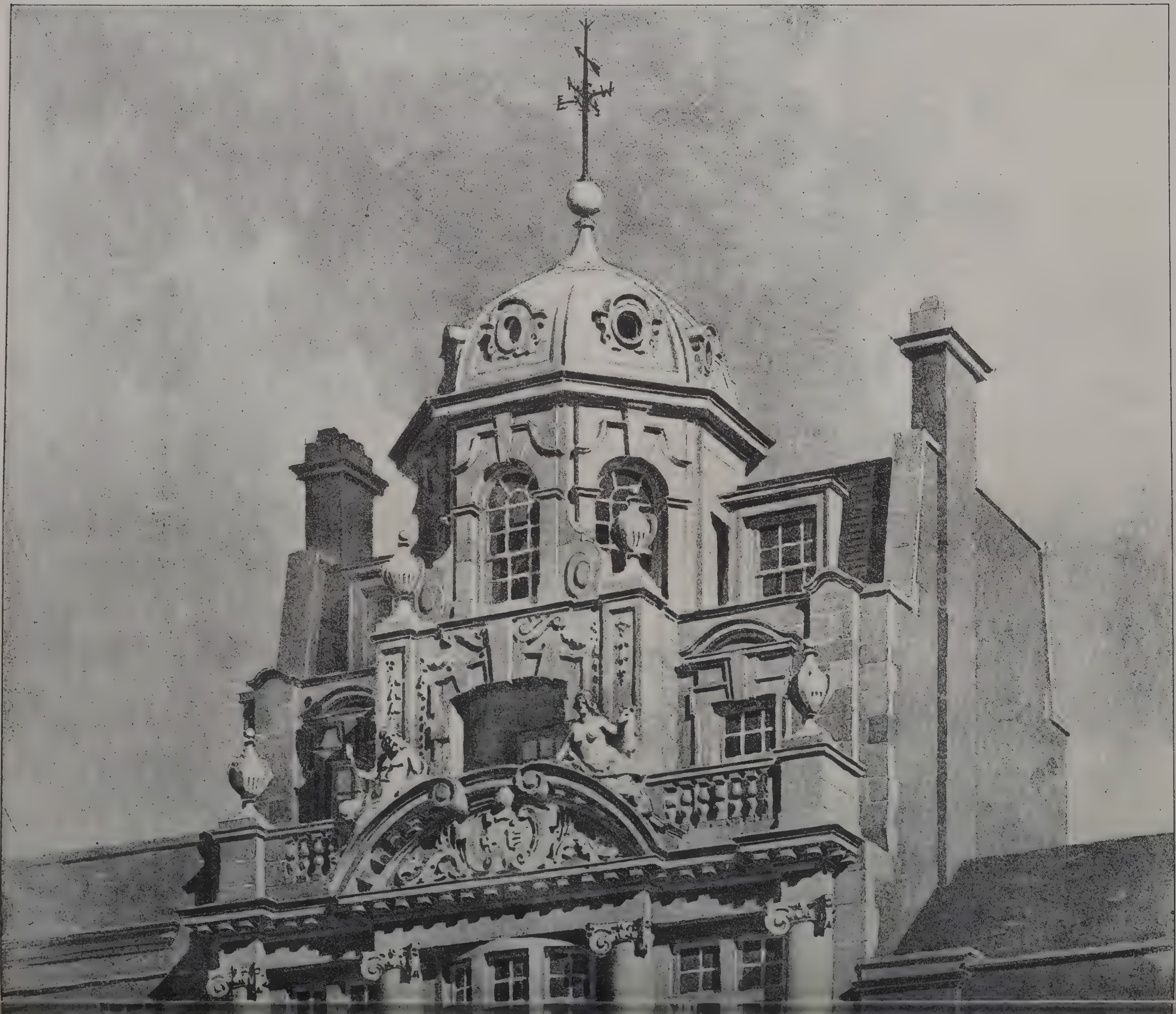

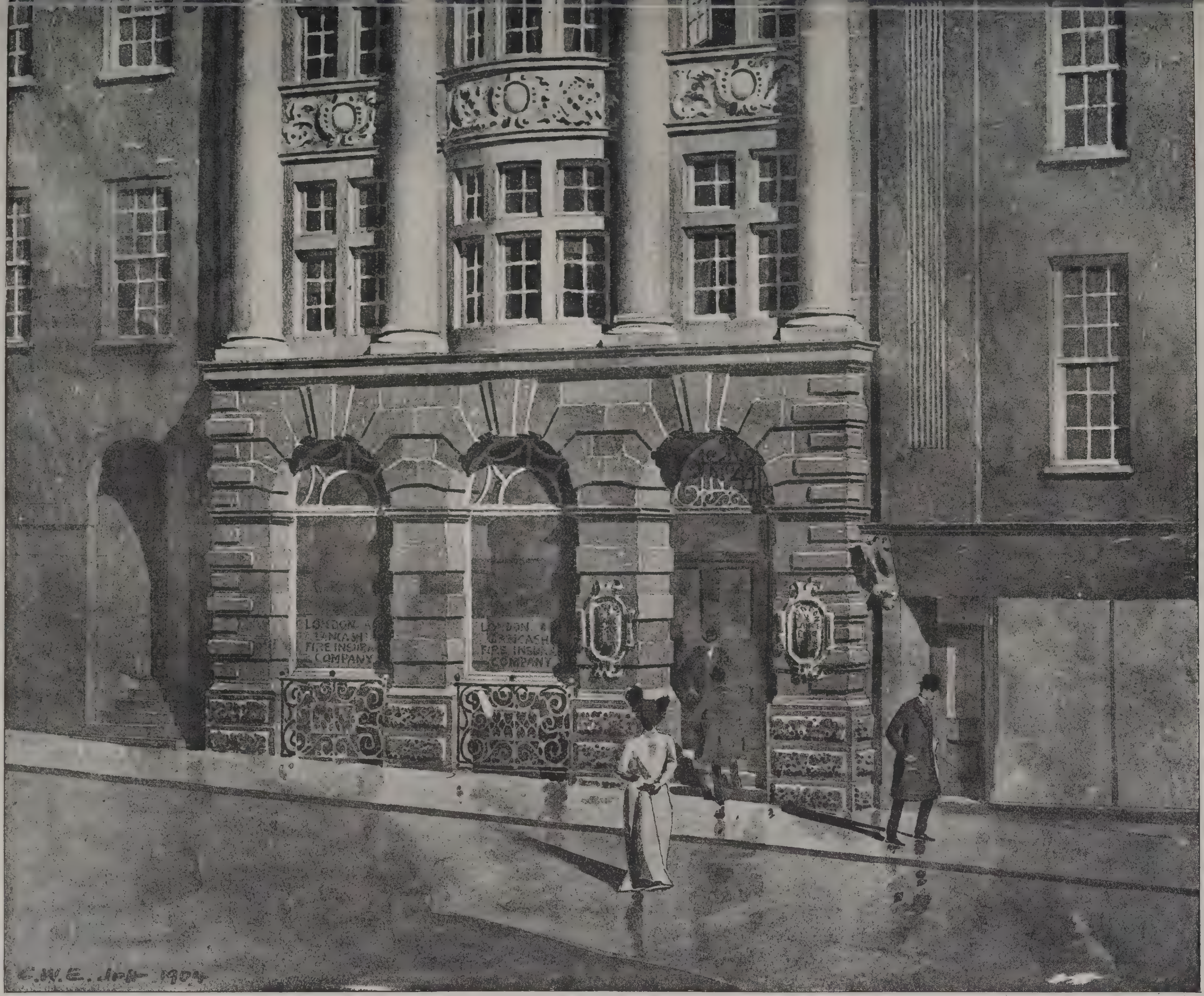
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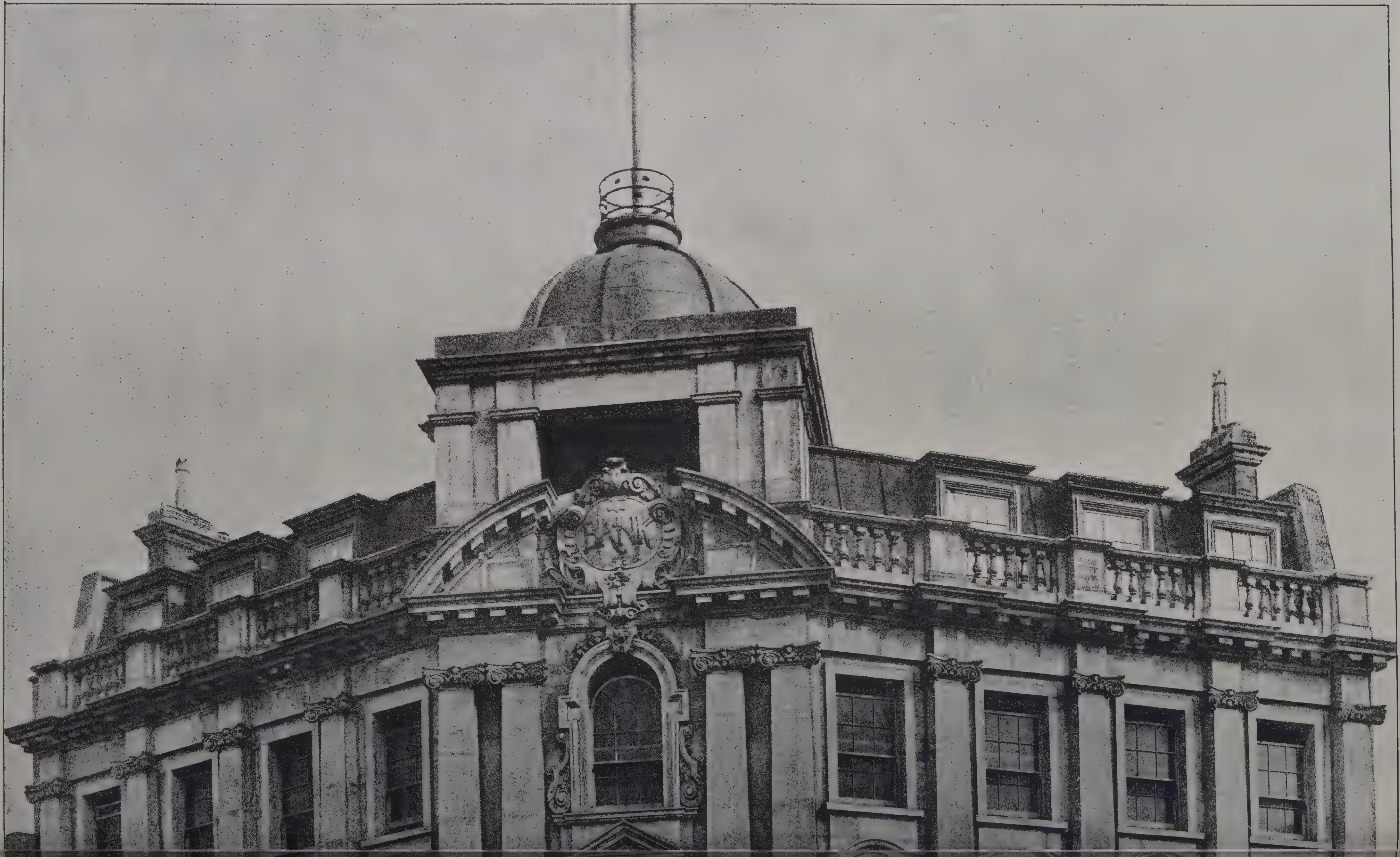

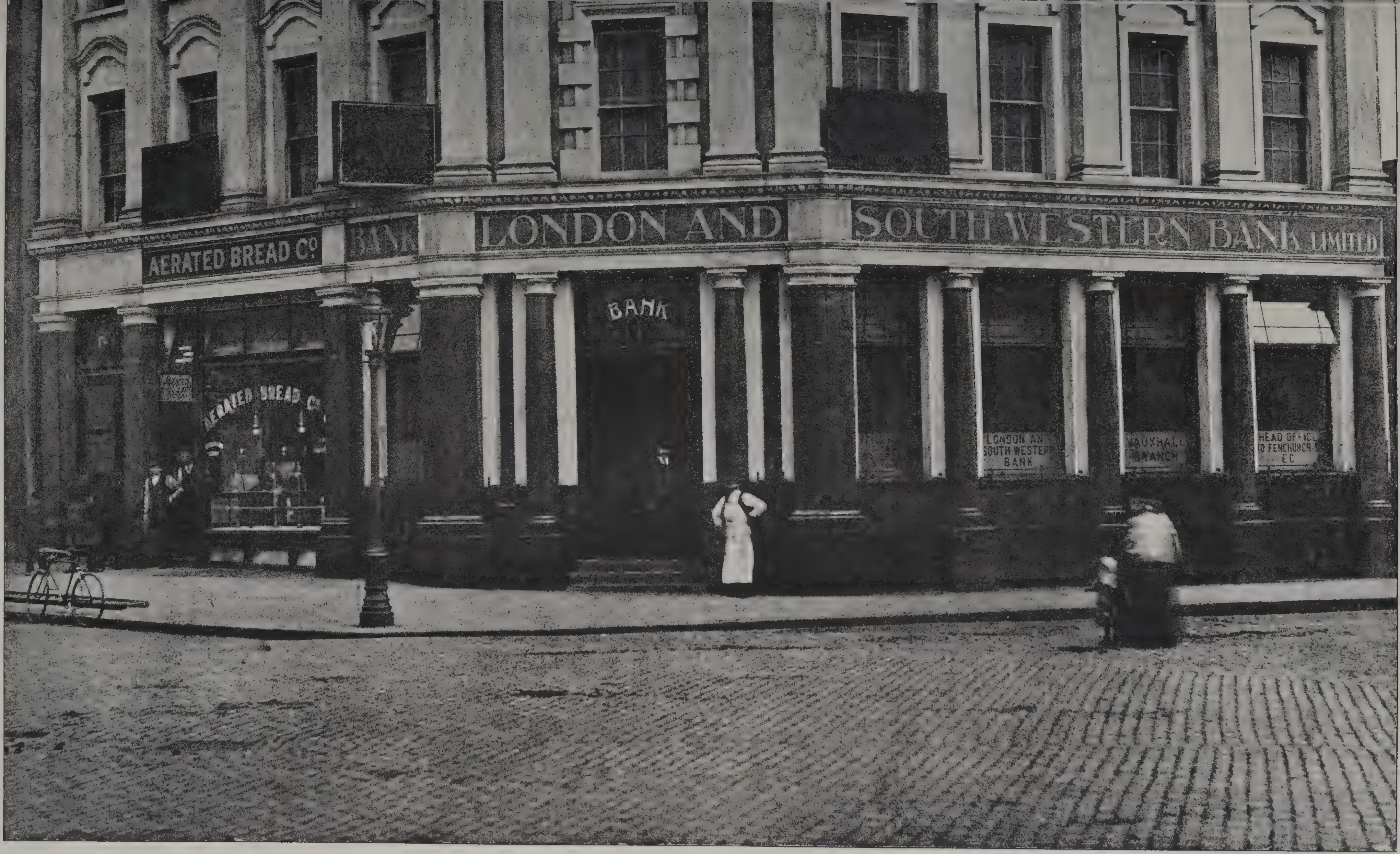

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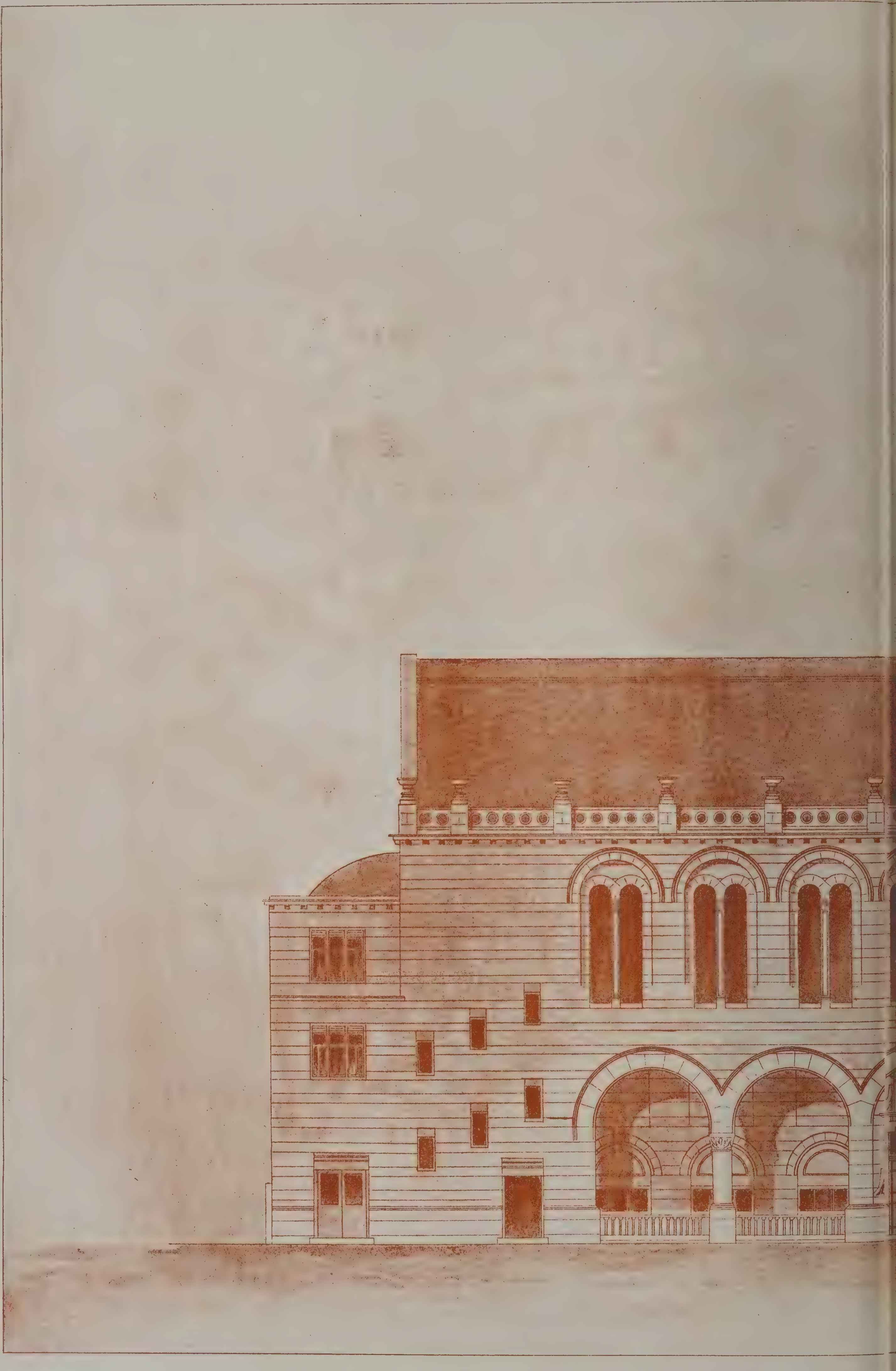
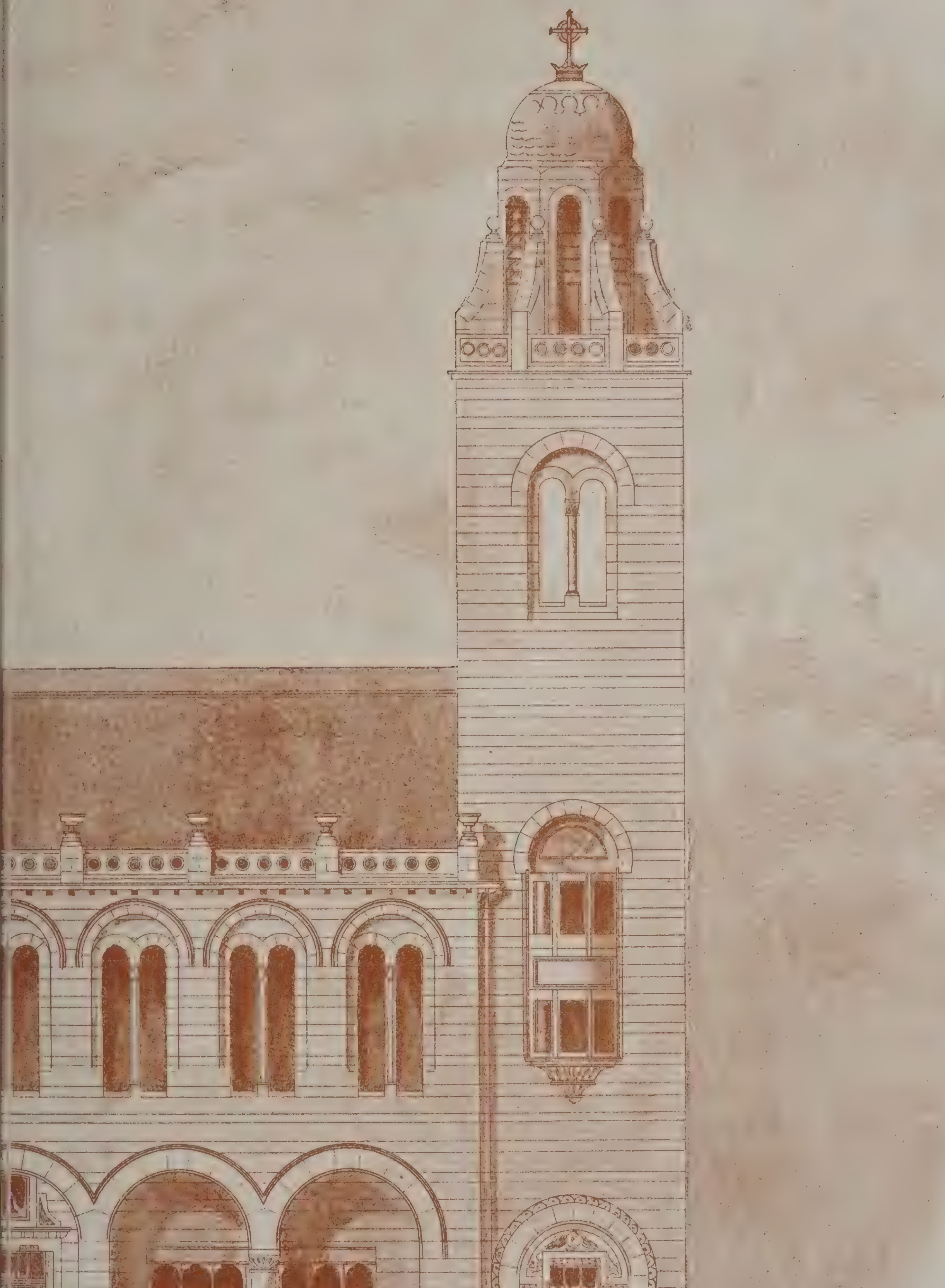


FIRST CHURCH OF CHRIS

R. F. CIS

ly 14th 1905.



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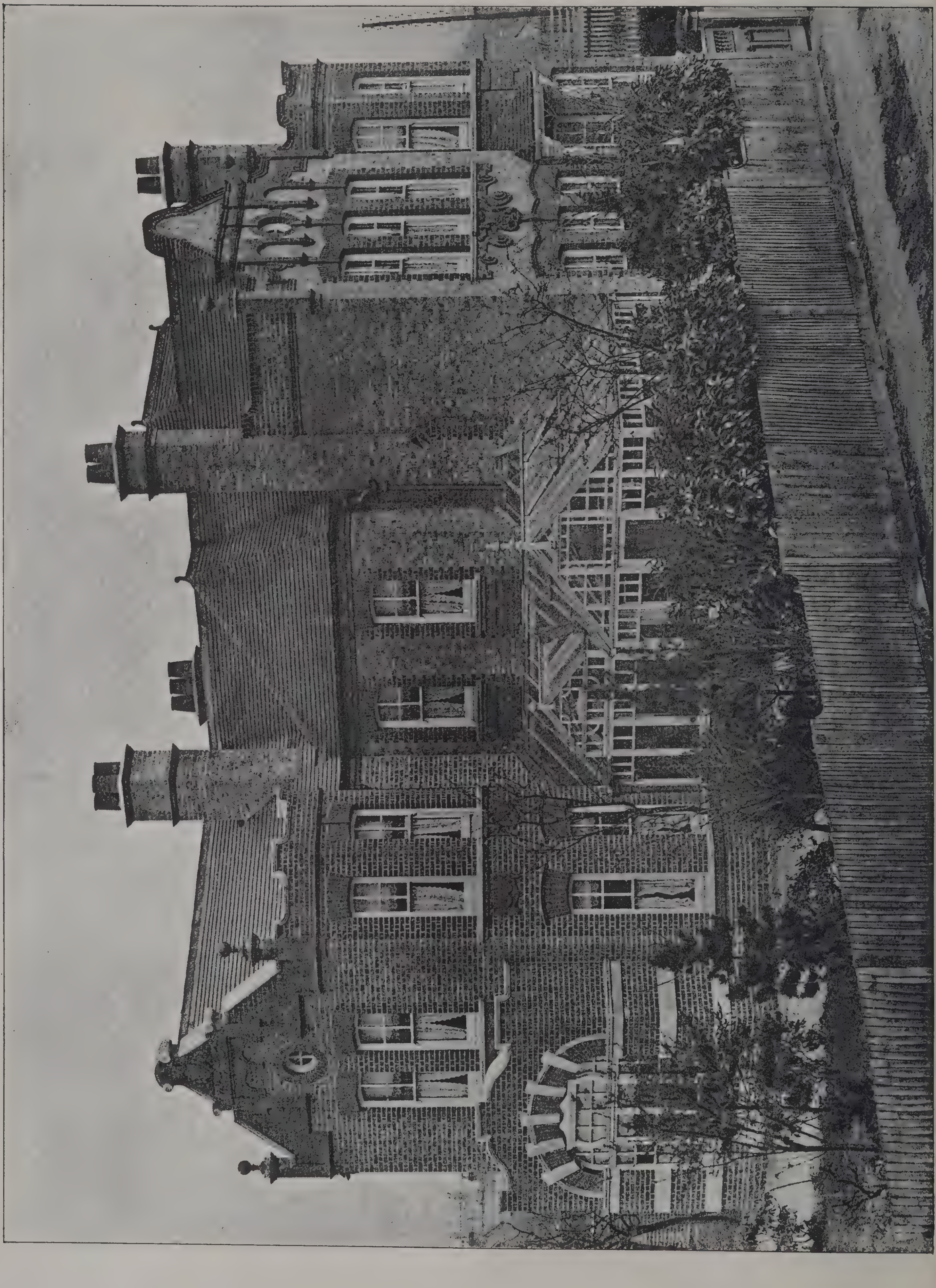

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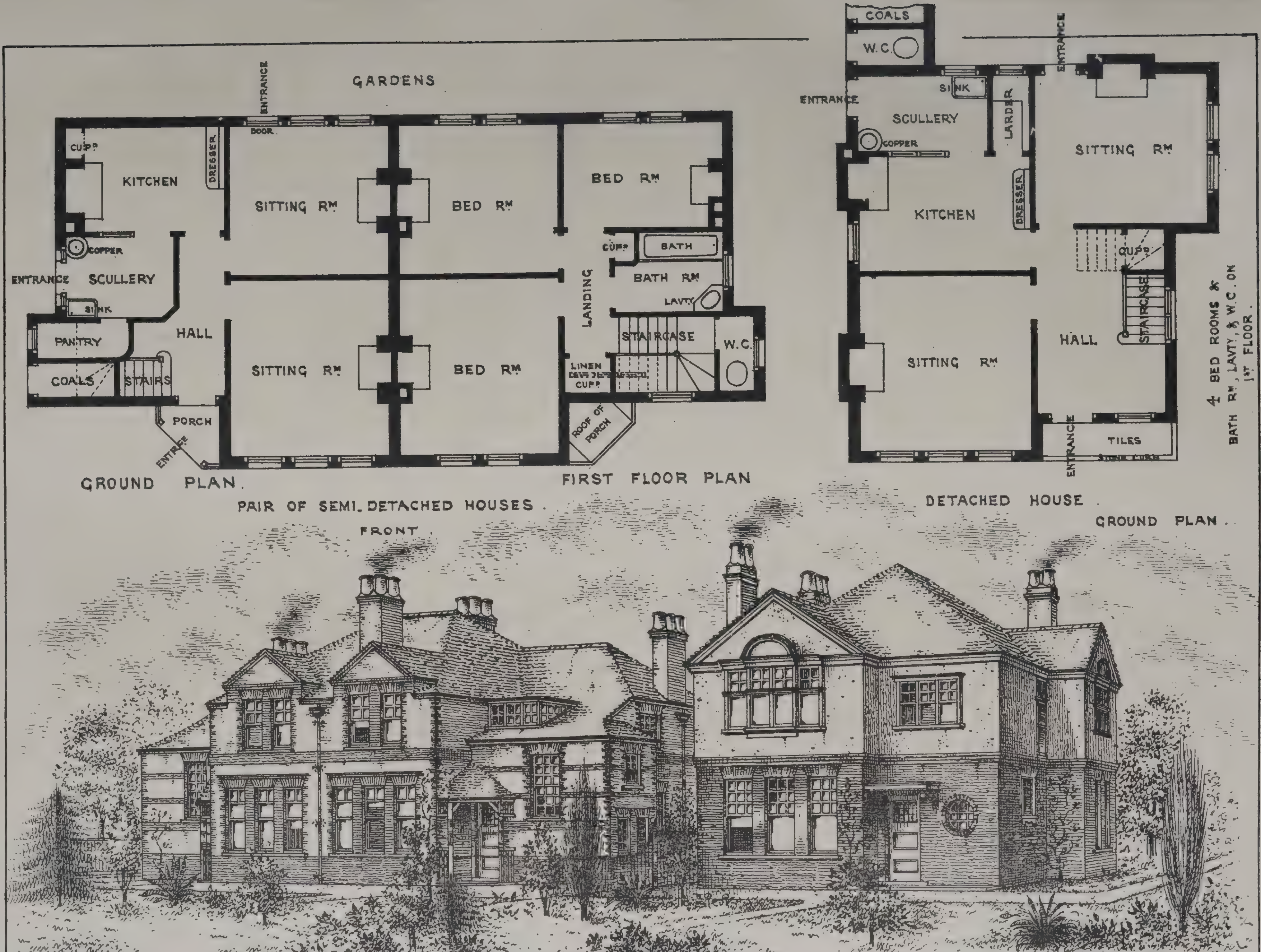

GROUND PLAN. FIRST FLOOR PLAN

PAIR OF SEMI-DETACHED HOUSES.

FRONT.

DETACHED HOUSE.

GROUND PLAN.

4 BED ROOMS & BATH Rm, LAVTY, & W.C. ON 1st FLOOR.

DETACHED & SEMI-DETACHED HOUSES AT FELTHAM, MIDDLESEX.

THOS R. RICHARDS, ARCHITECT,
BEDFORD ROW CHAMBERS, 42, THEOBALDS ROAD, LONDON, W.C.

PHOTO-LITHO. SPRAGUE & Co LTD 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

The Architect.

THE WEEK.

The Society of Antiquaries of Scotland have been engaged during the present summer in exploring the Roman station at Newstead, near Melrose. The area is no less than 18 acres. Up to the present time about 3½ acres only of the great camp at Newstead have been excavated, resulting in the discovery of a large quantity of pottery, coins, &c., and some enamelled ornaments. The prætorium has been partly uncovered, and is found to have been surrounded by a fine colonnade, the square pillars of which, formed of red freestone, remain erect to the height of 2½ feet. It is not improbable that this structure is the origin of the name Red Abbey Stead, which this spot has borne for many centuries. As usual, the financial aspects of the exploration are not satisfactory. The funds which the Society are able to devote annually to the work of excavation are strictly limited. They will not suffice, even as increased by contributions already received from the proprietor of the grounds and one or two other individuals, to carry on operations at Newstead beyond the middle of September; neither can the work be resumed in spring unless means are forthcoming to indemnify the tenant of the farm for interference with his crop. The sum required is not formidable, but it is indispensable unless the excavation is to be discontinued at a moment of the highest interest. Sir Herbert Maxwell, the president of the Society, accordingly appeals to all lovers of antiquity to assist in bringing the work to a successful conclusion.

We lately referred to a petition of the Royal Scottish Society of Arts with respect to a sum of money which was left to the Society for rewarding inventions, improvements or discoveries in the useful arts. The money amounted to 2,257*l.* through accumulations of interest. The Court commissioned Mr. Leadbetter, an advocate, to prepare a report on the subject. He found that inventors preferred to take their improvements to a London market and gain money, and were indifferent to the barren honour of a medal or a small prize. The Society wished to expend the money in lectures. The Courts have decided that the capital is not to be encroached upon, but the interest arising from it is to be applied in sums of money or medals in rewarding inventions, improvements or discoveries in the useful arts, preference being shown to those which shall be primarily submitted to the Society; or in making money grants in aid of experiments and of works of research in or connected with the useful arts in Scotland; and in so far as the interest may not be required for the foregoing purposes, in providing lectures on subjects connected with or which may be of service to the advancement of the useful arts, to be delivered by those who have made inventions, improvements or discoveries, or have engaged in scientific research in such subjects. By this arrangement the intention of the donor, Alexander Keith, is respected. But the Scottish Society of Arts can apply the interest in ways which were not originally contemplated.

A decision was given lately in Wales from which it might be inferred that any workman having the slightest interest as a shareholder in an undertaking was ineligible for compensation for any injury which might arise to him while he was employed on the works. In Scotland a somewhat similar case has been heard before the Courts. Readers of Hugh Miller's books will remember that he was apprenticed to a working mason, and that sometimes only the ordinary rate of wages for a single workman was paid for the combined services of the two. Yet the master claimed to be more than a journeyman. In the case in question a quarryman was engaged by the factor or steward of Sir Simon Macdonald Lockhart, Bart.; for 5*s.* a day he was to quarry a certain number of stone blocks; he was authorised to employ assistants. There was an explosion in the quarry and the man was permanently disabled. He claimed 15*s.* a week under the Workmen's Compensation Act. But the case was decided against him on the ground that he was a contractor. A question of law was reserved for the consideration of a higher Court, viz. "Was the appellant at the time of the accident a servant or workman of the respondent in the sense of the Workmen's Compensation Act?" The Lord President said that the kind of employment was not uncommon on large estates, but there was nothing to show the quarryman was more than an ordinary workman who had to obey the factor and who could be dismissed at any time. Another judge said he doubted whether Sir Simon Lockhart was an undertaker in the sense of the statute, for the Act was intended to apply to commercial undertakers, and it appeared doubtful whether a landed proprietor employing persons to quarry on his own estate for buildings on his own estate, and who was not under any of the Factories and Workshops Acts, was a person who fulfilled the definition of undertaker. It was, however, decided that the case should be sent back. There is a trace of feudalism in Scottish law, and hence the reverence for the proprietor of the quarry. But if we take a common-sense view of the case, he was only an amateur contractor endeavouring to get work done as cheaply as possible, and who did not make proper arrangements for the safety of those who laboured for him.

The oldest architect, estate agent or philanthropist would be unable to recall a time when so much attention was given to the subject of cheap buildings as at present. Next week the Cheap Cottages Exhibition is to be opened by the Duke of Devonshire. Mr. Batsford has taken time by the forelock and has brought out an illustrated work on "Modern Housing in Town and Country," by Mr. James Cornes, in which a great many of the cottages which will be seen in the exhibition are illustrated. The author is a member of the Leek Town Council, and he has boldly attempted to deal with the difficulty of erecting dwellings at the cheapest rate. At the time we referred to his experiment, for with the aid of Mr. J. T. Brealey, architect, he has been able to erect dwellings which can be considered as pleasing in appearance at the extraordinary rate of 3¾*d.* per cubic foot. They can be let at the low rent of 5*s.* 6*d.* and 5*s.* 9*d.* per week. Unlike many other cottages, there is a bath-room, which can be heated from the kitchen boiler. Mr. Cornes does not, however, magnify his own effort. He has been able to obtain designs from more than sixty architects. Many municipal bodies have also erected cheap dwellings, and besides plans and drawings full particulars are given about cost. The book, therefore, is an incitement to architects to attempt to grapple with a pressing social difficulty. Care has been taken to avoid dwellings which would be suggestive of extreme poverty or of charity. Some, no doubt, are very simple, but all show an endeavour to satisfy any desire which tenants may have for respectable dwellings. The Liverpool tenements forl abourers, although let from 4*s.* 6*d.* to 5*s.* 3*d.*, and two rooms can be had from 2*s.* 9*d.* to 3*s.* 6*d.*, have none of that dreariness presented by the early model dwellings. Mr. Cornes having gone through the ordeal of planning knows what kind of information is desired, and he has endeavoured to supply it in each case. It comes nearer than any book which has yet appeared to a guide for those who wish to design cottages and those who wish to erect them from benevolent or commercial motives. The price is in keeping with the subject, for it is no more than 7*s.* 6*d.*

THE REPORT ON LONDON TRAFFIC.

PEOPLE who were afraid to erect new buildings in the most important parts of London because they expected that the recommendations of the Royal Commission on Traffic would lead to a transformation of the capital can now build without any misgiving. It is true that gigantic schemes are suggested in the report, but a great many years are likely to elapse before any of them are carried out. Indeed, it will take a long time before even the ways and means for such work can become sufficiently definite.

In saying this we are not indicating that the Royal Commissioners have not accomplished all they were expected to do. The investigations which were necessary must have occupied many days of busy men who had to sacrifice other duties for the purpose. In addition to the numerous sub-committee meetings, there were no less than 112 meetings. One hundred and thirty-four witnesses had to be examined. Moreover, some of the members visited the chief cities of the United States in order to ascertain how similar problems were treated, while other members visited the principal cities on the Continent for a similar purpose. The general report which was issued this week is a weighty document which is worthy of the most careful study. But it will have to be followed by seven others. The subject treated is so complicated, some experts are likely to consider that even eight volumes are insufficient to cope with it.

London was at the end of the eighteenth century described as a monstrous ant-hill on the plane of a too busy world, and the endlessness of its streets fatigued eyes which had been accustomed to look on mountains and the ocean. But London in those days was a restricted place if compared with the labyrinth which in area now surpasses all other cities of the world. How it has grown would require a voluminous history to relate. There was little foresight on the part of the rulers. The Commissioners seem to have been amazed when they found there was no definite plan showing the lines of thoroughfares. But as the Metropolis was for a long period only a congeries of ill-regulated parishes, each of them being more or less independent, it would be an onerous task to obtain sufficient co-operation to prepare any general scheme of setting out the streets. It may also be doubted whether such a plan, if prepared a century ago, would be of any advantage in our time. Many districts which were then important have lost much of their value, for the only part of the Metropolis which can be said to have a permanent character is that surrounding the Bank of England. Neither a royal palace, the Houses of Parliament, St. Paul's, Westminster Abbey, the Law Courts, the British Museum or the National Gallery can be considered as rivalling the Bank in upholding the social system of our time.

The Commissioners recommend that "a comprehensive plan for the improvement of streets and main roads should be prepared and carried out continuously as financial considerations will allow." The street improvements should be effected as laid down on it. The advisory board of engineers who assisted the Commissioners have come to the conclusion that main avenues should be 140 feet wide; first-class arterial streets, 100 feet; second-class streets, 80 feet; third-class streets, 60 feet wide, and fourth-class streets, 40 feet or 50 feet wide. Footways on either side are included in these widths. It is also recommended that the main streets should be laid out so as to admit of through communication with the roads in districts outside the Metropolis. That would suggest the necessity of the road authorities making arrangements for connections with London thoroughfares, but if the Metropolis continues to grow, where will the rural districts begin? Streets, whether 140 feet wide or 40 feet in width, would be of little use unless they were lined with buildings. The Commissioners offer the following suggestions:—

That the building laws and by-laws made thereunder, in "Greater London" outside the administrative county of London, should as far as practicable be made uniform; that the power to define frontages should be given to all local authorities; and that new streets or roads should not be taken over by the local authorities until sufficient provision has been made for main roads. In the case of roads that have not yet become streets, a sufficient width free of building should be reserved to provide for future requirements. Special provision will be required to meet cases where an undue proportion of the land devoted to building would be required for the construction or improvement of main roads. In such cases, a fixed percentage of the land proposed to be built upon might be set aside for new streets without payment of compensation, additional land, if required, being paid for at its market value. The same provisions might with advantage be applied to building operations on land still unoccupied and situated within the limits of the administrative county of London.

If the Metropolis is imperfect at the present time, it is well to remember that a sum exceeding 27,000,000*l*. sterling has been expended within half a century on improving the streets and bridges. That amount has imposed a heavy tax on the inhabitants. The Commissioners therefore have acted wisely in avoiding questions of cost except in a few remarkable instances. The advisory board of engineers recommend the construction of a main avenue 140 feet wide from the Bayswater Road to Whitechapel. It is estimated to cost 15,550,000*l*., the length being 4¾ miles. The second avenue would run north and south, connecting Holloway with the Elephant and Castle. Its length would be 4½ miles, and its cost 8,550,000*l*. Each of the avenues would have four lines of tramway on the surface and four lines of rail underneath it. The Commissioners appear to be anxious for the creation of both those thoroughfares. If we remember that the present rateable value of the Metropolis is 39,643,618*l*., it will be seen that the improvement must necessarily be a heavy burden on the ratepayers. The prospect, however remote, of erecting 18 miles of buildings is almost sufficient to compel architects and builders to agree with the Commissioners in advocating the creating of two such arteries.

Among other improvements suggested is the making of a first-class thoroughfare between King's Cross and Stafford Street. The forecourts and gardens would provide land for the widening without much cost. The street which would combine the Euston and Marylebone roads could also be continued to the junction of Edgware Road and Harrow Road. The widening of Constitution Hill, which would give effect to the road between the Mall and Charing Cross, is another of the improvements. A wide thoroughfare along Prince's Street, Westminster, would, it is believed, relieve Parliament Street, Charing Cross and Trafalgar Square. The widening of Wandsworth Road between Putney and Lambeth, a distance of five miles, is also mentioned as a most pressing necessity. Bayswater Road, Hammersmith Road, including King Street, Fulham Road, King's Road, Chelsea, should also, it is said, be widened to 100 feet. It is stated that immediate steps ought to be taken to prevent any building taking place, beyond the future frontage lines, nearer to the existing roadway than the present line of houses; the longer these precautions are neglected the greater will be the cost of widening. In Brentford the roadway, although part of one of the most important within the metropolitan area, viz. the main road to the West of England, is only 19 feet in width, and if the street cannot be widened an alternative route is suggested. The traffic at Ludgate Circus has to be stopped at short intervals to allow alternately of that going north and south and east and west traversing it. To remedy the inconvenience it is proposed to erect a viaduct with a roadway 33 feet wide from Blackfriars Bridge to Farringdon Street. The cost is estimated at 700,000*l*. Another bridge across the Strand, between Wellington Street and Waterloo Bridge, is put down as costing 325,000*l*. But in that case it is expected a large amount of the outlay would be recouped. The Commissioners consider that in carrying out the works preference should be given to such as are indispensable for the development of a complete system of tramways around London, and next those that will relieve congestion in such places as Wellington Street and Ludgate Circus. The advice already given with regard to the western roads is repeated for improvements in general, viz. that steps be taken at once for the purpose of preventing the creation of further obstacles to the future widening of existing streets, with proper provision for compensation where legal rights are infringed. Some change of the law may be required for this purpose. The object aimed at is apparent, viz. to prevent gardens and forecourts from being built upon hereafter along streets where a greater width than the present is desirable.

The report contains some remarks on the policy which has been adopted of rehousing the poorer classes on or near the places where they lived. It is calculated that in the central districts of London the population is 148 per acre, while in the rest of the county it is only 54. In districts adjacent to the county the population is 16.6, and in what is known as the rest of the county of London 6.5. The rents are not less varied. The Commissioners recommend that rapid and cheap locomotion should be encouraged, not only for the working classes, but for those of limited income who are compelled to present a respectable appearance. The report consequently urges the addition of about 23 miles of tramways apart from those which will be laid down whenever the new avenues are realised. Among them would be some in subways, viz. Knightsbridge to Aldgate, Grosvenor Place to Hyde Park, Aldersgate Street and Post Office. The Commissioners do not altogether approve of that arrangement, although it comes from the advisory board. They believe that, except in the City, it would be found nearly as cheap to widen the roads and lay the tramways on the surface. Through communication, they consider, should be at once established. Believing that the tramway schemes have been impeded by the local authorities, they recommend that their veto should be abolished, but allowing the County Councils and the Corporation to have a preferential right for the construction of tramways within their districts if they are prepared to do so. As regards railways, it is believed to be necessary that those travelling across London where there is heavy traffic should have four lines of way. Tube railways like those already constructed are very expensive. But the Commissioners say they are advised that "it is possible to construct a cheaper type of deep-level railway adapted for suburban traffic, with fewer and less expensive stations, and rising to the surface when the open country is reached; such railways would help to solve the 'housing problem' by carrying the population to districts not yet built over." It is suggested also that the local authorities might be authorised to aid railways with contributions from the rates, as it would be more economical to build residences for the humbler classes of workmen in the suburbs than in the central area. The Commissioners admit that such improvements as would completely satisfy all demands cannot be carried out for many years. It is accordingly suggested that meantime there should be improved regulations to control traffic, that fixed obstructions to traffic should be removed, that the breaking-up of streets should be regulated by a system which would minimise the evils, &c. It is also said that "improved building laws are required for application to districts not yet built over, and possibly it may be found expedient in special cases to prepare 'building plans' for particular areas."

The Commissioners are of opinion that the establishment of a Traffic Board is called for. It is suggested that it should consist of not more than three members, one being a lawyer and another an engineer. But the choice of the Government should be unhampered by statutory restrictions. It is essential, however, that the members of the Board should be capable men of business, energetic, impartial and able to devote, if necessary, their whole time to the work of the Board. The Board would examine all Bills seeking statutory powers for the construction or alteration of works affecting the means of locomotion or transport in Greater London. They would also report on such subjects as the improvement of the main roads leading out of London; the building laws as affecting districts not yet built over within the area of Greater London; the revision and amendment of the laws regarding the breaking-up of the streets; and the consolidation and amendment of the laws affecting traffic.

All the members of the Commission have not agreed in the recommendations. Indeed, it is surprising that the majority were prepared to accept so much. The task undertaken was overwhelming. If we take a modern continental city as altered on Haussmann principles or an American city as a standard, London must be condemned. The improvements which are advocated would, of course, diminish one of the inconveniences which at the present time have to be endured by men of business, or, in other words, the time needed for locomotion would be reduced. But those inconveniences might quickly be minimised if the traffic in the streets of London was subjected to more stringent regulations. Cabmen are summoned if they are thought to be going at too easy a pace through the streets, but large waggons are allowed to pass along the principal thoroughfares in the busiest hours as slowly as suits the convenience of the drivers. The main consideration of the Commissioners was to devise the shortest routes between different points, and improvement with them simply means widening and straightening of streets. Nothing is said about increasing or diminishing the beauty of any part. Although new streets connote new buildings, it is remarkable that not one architect was selected as a commissioner or as a member of the advisory board. That circumstance is by itself enough to prove the limited character of the inquiry. The railway companies, on the plea of facilitating traffic, have already done much to disfigure London as well as many other cities and towns. Great caution should therefore be exercised by people before approving of the recommendations, for many of the so-called "improvements" which were carried out by local authorities have not been advantageous. The operations proposed would be on an infinitely larger scale, and at the first glance it does not appear as if they would be more successful. Besides, it is a novel creed to consider that a city becomes attractive in proportion to the number of its short cuts.

GARDEN CITIES.*

WHEN the selfishness of the human individual is considered a city becomes a remarkable creation. It was not unreasonable for people in an early age to ascribe the origin of cities to gods or to mythical beings who were closely connected with them. Without the special protection of a deity it was believed no city could be preserved. The mystery which surrounded them is further suggested by the circumstance that so many cities had cryptic titles which were known to only a few of the most trusted of the inhabitants. Not even the gods of Greece and Rome were remarkable for intelligence or for equity, and it was feared that if offerings and prayers were addressed for the destruction of a city under the title agreed on as divine, the protecting deity might be disposed to confound the enemies with the citizens. After a time men trusted to themselves for founding new settlements, and a number of considerations such as position, fertility, security were taken into account by the adventurers. In the long Mediæval period a castle became in many cases the nucleus of a town. An abbey, cathedral or church sometimes served as a substitute. In modern times the United States have created cities with a rapidity which would have seemed miraculous to the people of Greece or Rome, and the work has assumed a commonplace character.

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* *Garden Cities in Theory and Practice.* By A. R. Sennett. Vols. I. and II. (London: Bemrose & Sons, Ltd.)

During the centuries which have elapsed since cities were founded in the East, in Europe and in America, it does not appear that the beauty of the situation exercised any influence over the founders. The physical features might sometimes be turned to account at a later time, as in the case of Edinburgh. But we cannot believe that the first settlers in Dunedin cared about the varying colours which impart beauty to the rock on which the castle is now built, or could imagine the possibilities of the valley between it and the opposite hill, to which the name of Calton Hill has been given. The Americans in the same way have endeavoured to compensate for the rashness of settlers who belonged to the last or the preceding generation, but who were as indifferent to picturesqueness as any of the followers of Attila. Projects of cities which would combine beauty with convenience were occasionally announced. But they were looked on as Utopian in character, or as poetic visions expressed in prose. One of the visionaries whose name has been rescued by Mr. Sennett from oblivion, was James Silk Buckingham. He was a great traveller, and had carefully studied the defects as well as the merits of institutions. He realised the shortcomings of London and other cities, and sixty years ago they were appalling. He tried to become an English Cadmus. The following is his description of a model town for a temperance community of 10,000 inhabitants :—

> The objects chiefly kept in view have been to unite the greatest degree of order, symmetry, space and healthfulness, in the largest supply of air and light, and in the most perfect system of drainage, with the comfort and convenience of all classes; the due proportion of accommodation to the probable numbers and circumstances of various ranks; ready accessibility to all parts of the town, under continuous shelter from sun and rain when necessary; with the disposition of the public buildings in such localities as to make them easy of approach from all quarters, and surrounded with space for numerous avenues of entrance and exit; and, in addition to all these, a large intermixture of grass lawn, garden ground, and flowers and an abundant supply of water—the whole to be united with as much elegance and economy as may be found practicable. Plans of greater variety in architectural elegance might easily have been produced, but these it is thought proper to reserve for future towns, when the certainty of large profits from this shall be established, and when more exuberant and more costly ornament may be justly introduced. In this, simplicity, convenience and economy are the chief considerations, though ornament has not been neglected.

Buckingham's project was passed over; the country was not then ripe for such an experiment. Robert Owen's attempts at Orbiston and Harmony Hall were failures, although they were connected with manufactures. Fergus O'Connor's effort to turn factory hands into agriculturists helped in the collapse of Chartism and of amateur experiments in *petite culture.* With such examples before the English public it was not astonishing that "Garden Cities" were for some time regarded unfavourably. But enough has been done to enable people to realise that new towns of the character proposed are not ridiculous. In the first place, it is well to remember that the experiments were connected with an economic crisis. Those who do not follow the affairs of large manufactories may discover from modern books how a great many printers have been obliged to set up offices at a distance from London. But the emigration is not confined to one class of producers. Messrs. Willans & Robinson, Ltd., the engineers, have set up works at Rugby. In a letter to Mr. Sennett they say :—"When we built these works we deliberately made them, as we considered, handsome in appearance, partly as an act of duty to the neighbourhood we invaded, and partly because we believe that pleasant surroundings have a beneficial effect upon those who work in them, and tend to raise self-respect and the general tone." Messrs. W. H. Allen & Co., Ltd., of Bedford, had to remove their works from Lambeth in 1894, as their premises were required by a railway company. They erected 400 houses for the workmen, each having a garden. New schools were also erected. Workmen and their families enjoy better health, and the men are more contented since they left the premises near Stamford Street, which is the headquarters of the Amalgamated Society. Messrs. Siemens have gone to Stafford, and many dwellings of the cottage type have been provided for the employés. The arrangements at Port Sunlight are well known, for it is a great advertisement. In Bournville about 500 houses have been erected, and the rents vary from 5*s.* 6*d.* to 12*s.* a week. In this case, which is an especially interesting social experiment, the property belongs to a Trust which possesses all Mr. George Cadbury's interests, and the whole of the revenue is to be devoted to the development of the estate.

In each of the instances we have mentioned the houses may be considered as accessories to a large manufactory. Consequently there is more control over the tenants than is possible in ordinary towns, and more or less *esprit de corps* must arise among workers. It may be assumed that rents will be regularly paid and the tenants have care for their dwellings. The uncertainties which befall landlords in general can be considered as unknown. The whole management of the estate is therefore conducted under ideal conditions. In those villages or settlements means are provided for the education and amusement of the men and their families. Public-houses are allowed, but they are under rigorous control. The police expenses must be moderate in such places. Indeed, drunkards or disorderly people would soon find it necessary to emigrate.

With such advantages Port Sunlight and Bournville suggest the possibility of cities which are made up of similar units. Vast cities like London and large provincial towns, in order to meet the expenses which are inevitable with disorganised masses and administration on a colossal scale, have endeavoured by municipal trading to overcome the difficulty of meeting the expenditure. The experience of the works committee in the Metropolis is by itself a sufficient revelation that the system adopted of amateur control is unworthy of the age and of the people—that it is discreditable to its organisers and humiliating to its operatives. Mr. Sennett, in his remarks on that pantomimic department, says :—

> After the commencement of the operations of the "works committee," those who took an interest in such matters—but unfortunately the citizens of Greater London are probably the most *laisser-faire* in the world—were astounded by the enormous excess of actual cost over the "estimated" amount. Case after case has shown the complete inability of the Council to carry out work anything like as cheaply as private firms can do—even after the compulsory insertion of the wages clause, a domineering and flagrant encroachment by a public body upon the private rights and liberty of individuals. Lesson after lesson has been unheeded, for the majority has not had pluck enough to frankly admit such inability. Cases are on record in which "works committee" cost has been triple and upwards that of private contract. These outrageous discrepancies, and hence waste of ratepayers' money, could not be allowed to continue, and therefore an effort had to be made to delude the public into the belief that the lessons had been taken to heart, and by some magic a department "controlled by gentlemen who know very little about it" had suddenly and materially increased in efficiency. This has been

managed in a very simple manner—merely, indeed, by increasing the estimates, whereby it follows the discrepancy must evince corresponding decrease—in fact, can easily be made to disappear. This, of course, is an injustice to private competition. "If you put your own estimates high enough it is easy to do the work for less," archly observes Lord Avebury, and then proceeds to cite—with the corroboration of an unimpeachable expert—the case of a "works department" estimate for brickwork being 28*l.* per rod, whilst for the precisely same class of work the Office of Works by jobbing contract pay out 19*l.* 2*s.* The fact is also mentioned that the Chairman was asked some time ago how many bricks were laid by a London County Council bricklayer per day. He said he would inquire. When pressed again he said, "The question was difficult to answer, but it was something over 300." In America the average is, I am informed, 2,000, rising to 2,700. No wonder the "works committee" greatly exceed their estimates, taking all things into consideration. No wonder ratepayers have to pay so much more than they would if work were carried out in the normal way of business by private firms who understand their business.

There are many other preventable evils besides extravagance in dealing with workmen with which municipal councils do not appear to be competent to deal. Whether under new conditions there would be an improvement, who can say?

Mr. Sennett is an advocate for the restriction of municipal enterprise. But he favours co-operation, and would have his garden city possessed of a bank which would allow 4 per cent. to depositors and lend at 6 per cent. It appears that in Ireland they have about 200 small banks which are able to grant 20,000 loans in the course of a year. The garden city, he considers, would be suitable for providing and fostering new industries and occupations. For women especially Mr. Sennett believes the cities would be adapted, as they could carry out their work under more favourable conditions than in small rooms in towns. He therefore writes at some length of lace-making. The conversion of beet into sugar is another industry he favours.

For the roads of garden cities the most approved sections would be adopted, and Mr. Sennett refers to some of his own improvements which are well deserving of consideration. He believes that the cities would, through their smokelessness, differ from those which have been long established. Mr. C. W. Siemens's gas producers would accomplish that end. Industrial gas on the Mond system would be available at the rate of 3*d.* per 1,000 cubic feet. There are many other possibilities which would suitably be introduced in the new towns. Mr. Sennett considers the time well adapted for a change, inasmuch as both manufacturers and workmen are calling for one, and it has become evident that under existing conditions business cannot be carried on in opposition to foreigners who have adopted conditions not unlike those which would prevail in garden cities. Mr. Sennett is an ardent believer in the advantages of the remedy he advocates. His two massive volumes are not so much a technical treatise on the building of garden cities as an elaborate argument for their existence. Every man of good sense who has had an opportunity of inspecting different towns must agree that building on a large scale is necessary. Whether it is to take the form of the destruction of slums or the removal to specially-created towns must be a subject of controversy. But it is certain at least that garden cities cannot endure unless they become, as we have said, accessories to industries, the distance from the factories depending, of course, on the circumstances of each case. But to hold out a delusion that picturesque cottages with flower gardens are to be at the disposal of men who labour for only a few hours in a distant town is unworthy of anyone who professes to be a philanthropist. Yet that is the interpretation which many people give to garden city schemes. They are supposed to be part of the debt which capital owes to labour. Mr. Sennett, although an enthusiast, takes a more practical view.

YORK CATHEDRAL.

The Dean of York in his last "Occasional Paper" describes the present state of the restoration. He says:—Before the year is ended we are assured that the work on the tower will be complete, but much still remains to be done to the centre gable, the modern tracery of which is in a very dilapidated and dangerous condition, and also to the great west window, many of the mullions of which are split by the action of the iron saddle-bars, and we must therefore wait a little longer before the scaffolding shall vanish from the west front altogether. But with an eye to due economy we had contemplated the reduction of the staff and some little delay before any fresh work was commenced.

The Flying Buttresses.

The question of the unemployed had, however, then arisen, and the fact was very evident that if the men who had served us so efficiently were dismissed they would find great difficulty in obtaining work elsewhere. The natural course, therefore, was at once to put in hand any further portion of the work which had been contemplated when the restoration of the vast building first commenced, and this was the rebuilding of the flying buttresses to the nave, which Mr. Bodley had recommended in the first appeal which he made to the public in 1898:—

"I should much like to complete the flying buttresses on this side, and the pinnacles and flying buttresses on the north as well. I should estimate the former as being worth 400*l.* each (there are six of them) and the latter are worth 200*l.* each. There are about twenty-four tons of stone in each."

That they had once existed was very evident, for the lofty pinnacles on the south side, towering up now like May-poles, testified by the ragged condition of their bases that they had originally been the customary adjuncts to such erections; the toothing in the wall of the nave above indicated that it had been specially prepared for them. The same evidence appeared on the northern side of the nave, where the gabled stones on the summit of the existing buttresses, of a later date than the architecture of the building, show that they had been placed there to supply the necessary protection in place of something which had been removed, and seven or eight old prints of the Minster in our library, one dated 1750, showed that they had existed. True, a wooden roof would not actually require such additional supports, but equally true such a building as the nave of York Minster would be incomplete without them. What Gothic building approaching to the size of the Minster is lacking of them? In almost every cathedral church, whether at home or abroad, we find them, and always feel how much they enrich the grace and beauty of the structure, and seem to complete what would be otherwise bare and unfinished without them. Did the builders originally contemplate a groined roof of stone, and then, terrified by the unusual width of the span, decide at the last moment to substitute one of wood? We cannot say; but even if so, there is no evidence that they came to this decision before the flying buttresses were erected, and it is equally probable that they built the nave with them as a matter of course according to the prevailing canons of taste, and then left them as necessary to the completion of their design if not essential to the stability of the fabric. It seemed to us only the ordinary course to pursue. But, unexpectedly, a note of discord was sounded awakening a somewhat dictatorial and precipitate protest from a London society whose members could scarcely have been cognisant of the circumstances of the case. However, these utterances have received some very caustic strictures from the local press, and called forth very temperate and exhaustive letters from the architect of the Minster:—

"7 Gray's Inn Square, London: May 9, 1905.

"Dear Mr. Dean,—The evidence for the flying buttresses is clear and definite. There is no room for any doubt on the question. That it would be a most decided artistic and architectural gain to the exterior of the Minster I think, too, admits of no doubt.

"The objections are ill considered. The really conservative principle is to make good what is evidently lacking.

"I cannot conceive how in the present case objection can be raised. I have always longed to see the flying buttresses put up on artistic grounds, as well as adding strength to the fabric.—Yours faithfully, G. F. Bodley."

"June 3, 1905.

"Flying buttresses are for the strengthening of the walls of the clerestory. Though at the Minster there is no vaulting, yet a roof of so wide a span has a thrusting influence outwards. Flying buttresses, steadied by the weight of pinnacles pressing down, resist thrust and keep the walls in order. That is the use of flying buttresses. They strengthen and resist outward pressure. Mr. Green reports that the thrust of the roof is telling very distinctly on the clerestory walls, which are already out of the perpendicular. The great height of these walls renders them weak, and makes the addition of the flying buttresses most desirable."

The *Yorkshire Herald* has remonstrated in no measured terms with the presumption of the writers who have based their imperative strictures on mere conjecture, and "imperfect and second-hand information," pointing out that the evidence on which they have ventured to impugn the action of the Dean and Chapter is very slight and that they have quoted nothing in support of it. Experts have no doubt differed on the subject, but the weight of evidence is evidently against the contention of these modern critics. No less than seven old prints in the Minster library, one dated 1750, show the pinnacles and flying buttresses existing on the south side, and two show the pinnacles existing on the north; and the weight of evidence is clearly in support of the theory that these essential adjuncts to the dignity and beauty of the Minster had been suffered to get out of repair, and were partially or entirely pulled down at the epoch when any taste or care for Church architecture was at its lowest ebb. The earliest and most substantial contributor (of 1,000*l.*) to the present restoration fund had expressed a hope that this would be done, and quite lately a cheque has been received by the Dean with the words, "I am glad to see in the papers that you are at last intending to restore the flying buttresses." The foreign cathedrals and most of the English cathedrals have flying buttresses, and, in fact, York Minster seems almost the only cathedral bereft of them.

Our space will not allow us to quote *in extenso* the whole of the articles which the *Yorkshire Herald* has devoted to this subject, but enough has been given to show the general opinion of those who have a local as well as an intelligent opinion on the subject.

There has, indeed, been nothing adduced to shake our confidence in our distinguished architect, nor any adequate reason given why the course of action indicated by him in 1898, and still recommended, should not be proceeded with. More than 500*l.* have been spent in masons' wages to mitigate the present crisis of lack of employment, and a large sum in the purchase of stone already fashioned and carved by them. There is no reason why all this should be wasted at the captious criticism of those who have taken neither part nor interest in the great work which we are carrying out, and who are so evidently misinformed and prejudiced about it.

Indeed it would be a breach of faith with our subscribers so to do, and we trust that we shall receive further contributions to enable us in due time to bring this portion of the great work to a satisfactory conclusion.

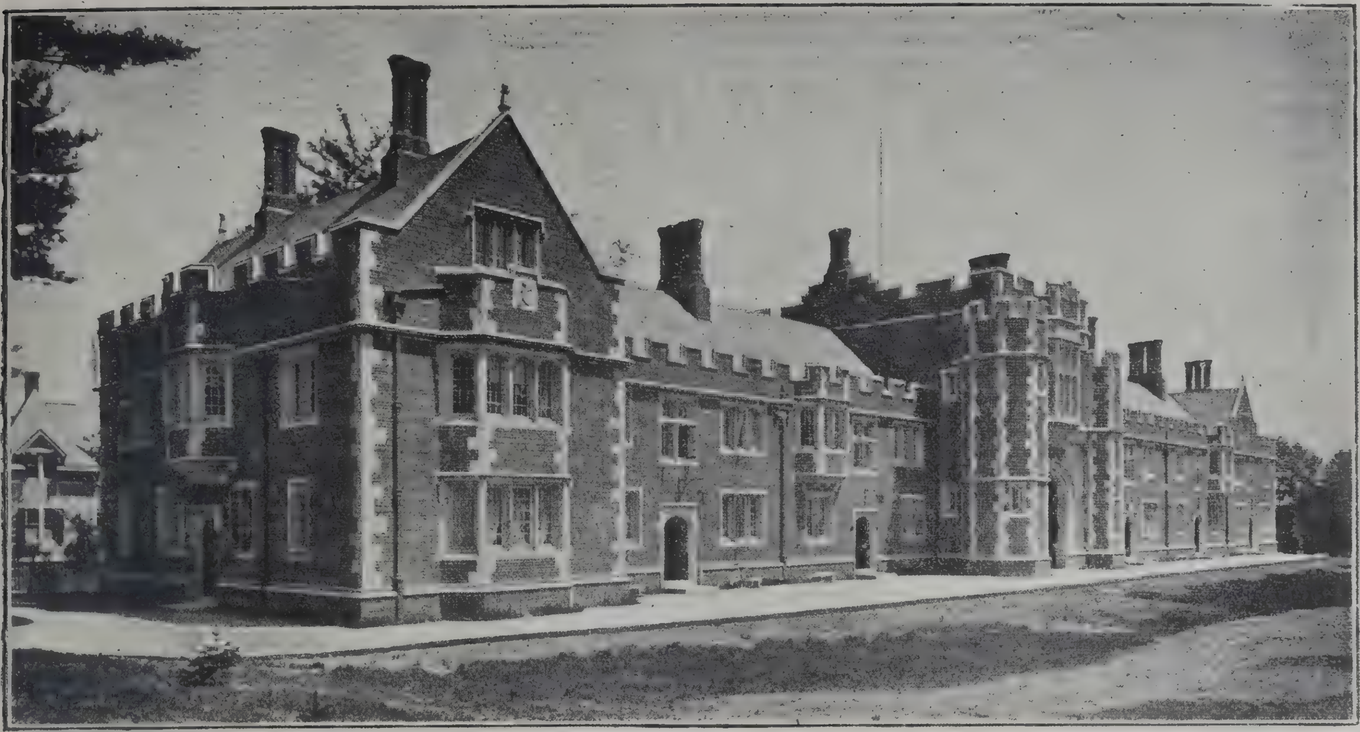
IONA CATHEDRAL.

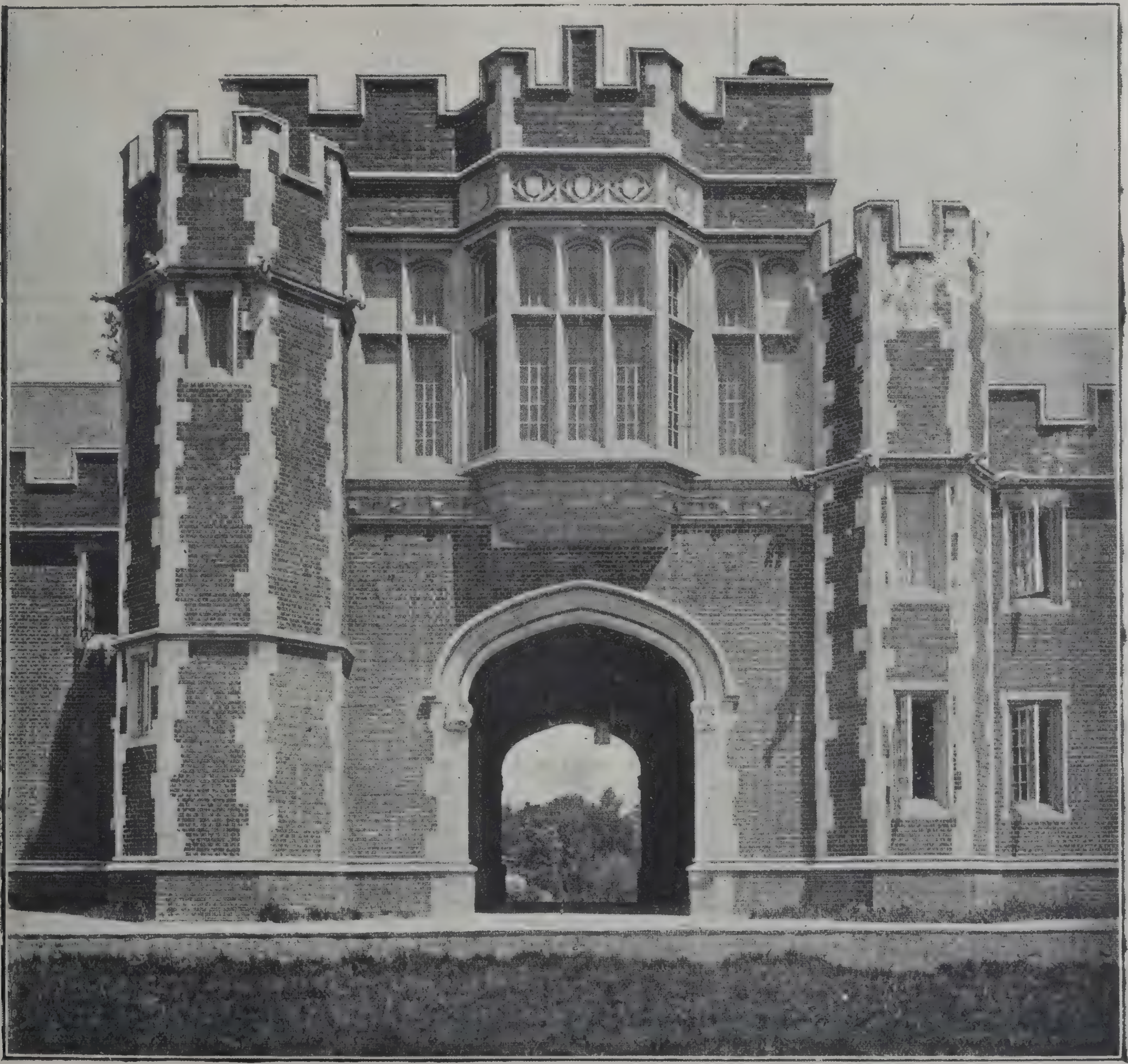
On Friday, the 14th inst., the partially restored cathedral of Iona was opened for public worship. The work of restoration has been in process for some years, but has been greatly retarded by lack of funds. Much still remains to be done, and it is estimated that at least 10,000*l.* will be required for the restoration and upkeep of the edifice in a manner creditable to Scotland and worthy of the historic associations which cling round the ancient building. Meantime, while waiting for further subscriptions, it has been decided to utilise that portion of the cathedral which the restoration, so far as it has gone, has made available for Divine service. The choir and the side aisle in the south transept were roofed in 1902. Last summer the north transept was restored, the gable was built and the roof put on. At the same time the sacristy was roofed, the arcading repaired, and a wall that filled it up was taken down. The floors of the choir, with its side aisle and the transepts, were all paved anew, and the floor of the ringers' chamber in the tower was re-erected. By the end of last year the whole building was enclosed as far west as the ruined nave, and the glazing of the windows completed the operations for the season. A good deal remains to be accomplished before the restoration of the choir can be called complete, but owing to the urgent need for expenditure on repairs to insure the safety of other portions of the building, it is unlikely that anything more can be done in the choir for some years unless contributions come in more freely. Designs have been prepared for handsome stalls and other fittings for the restored cathedral, but for the present a temporary pulpit and some church chairs must suffice. The next operation proposed is to complete the nave, roof it and enclose it and make it part of the church. When the nave is roofed the wall which fills up the western arch under the tower, and at present cuts off the ruined nave from the choir, will be demolished. In the opinion of Dr. Honeyman, the architect, if all this were done it would be an enormous improvement both to the interior and the exterior of the cathedral, and it would give facility for placing a great many of the more precious of the sculptured monuments under protection from the weather. The opening up of the two arches on the north side of the choir has greatly improved the effect of the church. At a recent meeting of the Glasgow Archæological Society, Dr. Honeyman stated reasons for believing that those arches formed part of the arcade of a much older building than the present structure at a period when the level of the choir floor was at the base of the existing pillar there, and a crypt existed under that level. What is called the sacristy, in his view, is really the north aisle of the former choir. To show the reasonableness of his theory, he mentioned that, while the floor of this arcading is 6 feet 3 inches above the present floor, it is only 2 feet 6 inches above the level of the nave floor at its western end, which is only about as much as the general rise from a nave into a choir. While lack of funds preclude the continuance of the restoration work this year on the same scale as last summer, something will require to be done at once in the way of making the walls of the tower and south transept water-tight. The storms of last winter showed many weak spots, where rotten stones rendered ordinary pointing ineffectual. To the carrying-out of these necessary repairs the trustees propose to devote what funds they have in hand, but an appeal is made to Scotsmen in all parts of the world for further subscriptions in order that the larger scheme of restoration may be carried to completion.

THE CALCUTTA MEMORIAL.

Some of our lay contemporaries, says *Indian Engineering*, are greatly exercised over the fact that Indian contractors are neglecting their opportunities in using Italian marble when they might use Indian. The question will approach, nay, for aught we know has reached, the burning stage when the contracts for the superstructure of the Victoria Memorial come to be settled. That question, if we rightly apprehend it, is complicated by Lord Curzon having set his heart, it is said, on the marble casing of the Memorial being all pure white. It is a pretty concept, but not devoid of difficulties. Neither the Taj at Agra nor any other product on the large scale of Indian quarries has any pretension to be pure, or even approximately pure, white. And there is, to say the least of it, no reason for a moment to suppose that the much-sought-after veins of pure white at Kerana are more plentiful now than in the days of Shah Jehan. The difficulties we apprehend nowadays are not only qualitative but quantitative. There ought to be little difficulty (by, for example, allowing the Raja a yearly revenue equal to his average) in securing for a term of years an absolute monopoly for the Calcutta Memorial of all the pure white marble that Kerana can yield.

The real question, which expert examination can perhaps best set at rest, is as regards any local source of supply, How many pure white veins are there? How far do they run, and at what cost for clearing away stuff not required can they be worked? If there is any chance of white veins turning yellow or grey—or in any way off colour—that will be a very serious matter indeed once the trustees are committed to paying for the needful powerful mining appliances and machinery for working up raw material that may not be procurable. Whiteness, too, is not the only desideratum; the material must come out in blocks of good size, absolutely free from flaws and absolutely certain to weather well. We doubt if there is enough pure white marble in the outside work in all the monuments put together of Hindustan to put this question of weathering at rest. The native architect altered his details to suit the sizes in which he got his stone as determined by its liability to flaw, whereas here the work must carry out a preconcerted design in its integrity. Apart from sentimental considerations, we are not sure if some at least of the pure white building in question might not best be worked out in terra-cotta.





DORMITORY, CLASS '79, PRINCETON UNIVERSITY, PRINCETON, N.J.

From The American Architect.] [*B. W. Morris, Jr. Architect.*

NOTES AND COMMENTS.

The resolution of the Duke of Sutherland to close Trentham Hall on account of the delay in carrying out sewage purification works has brought one of Barry's best works again before the notice of the public. There was a fine mansion in existence before Sir Charles Barry was entrusted with the alterations. He was able to impart grandeur and unity to a large massive building. He also erected a new wing with an engaged order which is not unlike the Banqueting Hall at Whitehall. The park in which the building stood was low, and Barry might well be proud of his success in arranging the grounds. Bishop Barry says:—"The hall was surrounded by lawns and paddocks reaching down to a lake. These were converted into a succession of gardens of regular design, stepping down by terraces from the house to the lake, and by balustrades, vases, statues and flights of steps, so connected with the architecture of the house as to spread out its base and give it the dignity and apparent height which its natural position forbade." It is easy to understand that at such a place the sewage difficulty is presented in its worst form, and the Duke says that as Trentham is unsafe to live in, he has no choice but to close the house and give up the upkeep and the gardens. The tenants and people at Trentham are also suffering most grievously, and the Duke does not intend to waive his claim against the defaulting authorities.

Auteuil is one of the most pleasant of the Parisian suburbs. It is attractive enough on account of its modern villas. But it has historic as well as literary interest. Boileau had a house there of a commonplace character. Molière also lived in Auteuil, and "Le Souper d'Auteuil," which at one time was familiar to Parisian playgoers, commemorated a social meeting at which Molière, Boileau, La Fontaine and others assembled. When the house of Molière was demolished a small temple was set up with the inscription, "Ici fut la maison de Molière." In a garden was erected the Hôtel Praslin. The gardens have been completely altered. But the name of Molière will always be associated with what is left of the property. It is now about to be sold. Under the circumstances, however, it is unlikely that the Government should become the purchasers.

The castle of Heidelberg, it is needless to say, consists of buildings that were erected at different times. The part that is most admired is the Ottheinrichsbau, which, with its abundance of statues in red sandstone and the multiplicity of the ornament, seems unlike any other building in Germany. It would seem as if it were inspired by mansions in Italy, France and England, but the combination is peculiar. Otto Henry ruled in the middle of the sixteenth century. The question, however, has long been debated, Who was the architect employed by him? Some twenty years ago Dr. Alt, of Mannheim, after a lengthy investigation, came to the conclusion that it was some master named Anthoni. Recently a record has been found which relates to "Anthoni der Meister vom Ottheinrichsbau zu Heidelberg." There was a sculptor of that name, and in Nuremberg he practised as an architect, and was known as Anthoni Vasoni. He lived in the middle of the sixteenth century, and there are slight resemblances between the castle of Heidelberg and some of the buildings in Nuremberg. He was like other Renaissance artists in being master of several arts, including metalwork. On that account it would appear that he endured opposition from German artists who confined themselves to one art. It also seems that about the time when he departed from Nuremberg Otto Henry was contemplating a great addition to his castle. It is supposed that he was a Maltese or a Sicilian, and that he was the architect known as Antonio de Theodoro, who was in the service of the Emperor Charles V. The name of Anthony Vasoni would appear to be entitled to some mention in all histories of architecture, although hitherto it has been passed over.

In the *University Review* for July Professor C. H. Reilly, of Liverpool University, has an article on "The Training of Architects." While favouring pupilage, he considers that a university training is desirable. He would have an architectural school in each university, but is of opinion that the teachers should be practising architects. In conclusion he says:—"No architect with any real interest in and love of his work—and only such can teach effectively, however highly paid—will forego all chance of seeing his creative work carried out. But it is not only or chiefly from his point of view that this is necessary. His students will not have that respect for him as an artist which is essential, unless they know and see the actual work he is doing and the good that is in it. But if they can study under his guidance the buildings he is erecting, these will become for them, in every stage of their construction, a series of practical experiments carried out under the most advantageous circumstances and the best laboratory in which an architectural student can work."

The grains of quartz which are the principal constituents of sandstone would be capable of sustaining heavy weights and performing the other duties required of a building stone, but the cementitious material which connects the grains is of a different quality. It may be silicious, calcareous, or ferruginous; but in any case it has not corresponding strength with the quartzite grains. Indeed, some geologists believe that the pressure of the superincumbent strata has conferred on sandstone much of the strength it possesses. Assuming that theory to be correct, it follows that more care should be taken with sandstone to insure that in building it is laid on the natural bed. It must be admitted, however, that when stones are prepared near a quarry and have to be sent a long distance to the building where they have to be used it is not always easy for the stone-layers to discern the natural bed, and when the stones come in specified forms they are not likely to be rejected on account of verticality of texture appearing as if it were the original state of the beds. There has been some carelessness of the kind in Holy Trinity Church, Brooklyn. Red sandstone was used for the walling. But from the manner of laying, the stone has already become disintegrated. The immediate repairs are expected to cost more than 20,000*l.* under the best circumstances. The stone does not appear to be adapted to the climate of Brooklyn, but if care had been taken several years might have elapsed before it was necessary to undertake a costly reparation.

ILLUSTRATIONS.

CATHEDRAL SERIES.—WAKEFIELD: RECENT EXTENSION AT EAST END.

CORNER OF OLD BOND STREET AND PICCADILLY.

The establishment of Messrs. Callard, Stewart & Watt, Ltd., is so well known to all Londoners, it may be considered as an institution. Buildings of this kind have an historic interest which nobody cares to remove. But the exigencies of an increasing business have demanded more extensive premises, and as a result it has been decided to alter the shops as shown in the illustration, under the direction of Messrs. Read & Macdonald. The works are now in progress.

CHURCH OF ST. MARY, BHOWANIPORE, CALCUTTA: SUGGESTED ALTAR AND TRIPTYCH, AND COLOURED WINDOW.

THE ANGEL, ISLINGTON.

SCHOOL BUILDINGS.

THE following principles to be observed in planning and fitting new buildings for public elementary schools have been promulgated by the Board of Education :—

Section 1.—*General.*

Before an architect is instructed to prepare plans for a new building for use as a public elementary school careful consideration should have been given to various points which have an important bearing on the character of the building which is required in the particular case.

The principal factors to be considered are the respective number of boys and girls for whom it has been determined that provision is necessary. The distribution of these scholars in respect of age is also very important in its bearing on organisation, and consequently on planning; the type of building required will probably depend to some extent on the manner in which the local education authority have exercised their discretion as to the exclusion of children who are under five years of age; and the nature of the accommodation required in the upper departments of ordinary public elementary schools will be affected if higher elementary schools are provided in the locality.

It must be remembered that a head teacher can seldom undertake effectively the responsibility for more than four to five hundred scholars, including the supervision of the teaching staff required for that number. This, therefore, is the greatest number of scholars for whom provision can wisely be made in one and the same department, remembering that each department must have its own head teacher, who is responsible for the general control and supervision of the instruction and discipline of that department (Article 8 of the Code).

The number of departments on any one site will depend upon the total number of scholars for whom provision is required, but it will be very seldom that more than three departments (or four, if one of them is for boys and girls of seven to nine or ten years of age) could properly occupy parts of one and the same building. When a school comprising departments for boys, girls and infants is attended by all the children of the area for which it is available, it is not unusual to find that the average attendance in each department is much the same, and this fact will be a guide in planning a building for these conditions. But it is desirable to have a certain margin of places in the infants' department in order to meet the greater variability of the attendance at different seasons.

All these considerations should be kept in mind in deciding how many places should be provided in the several departments of a large school. But in every case the local circumstances must be carefully considered, and if children under five years of age are excluded, or if many of those who reach the age of twelve years are transferred to schools of a higher grade, or if other special circumstances exist, the proportions above suggested must be considerably modified.

The number and circumstances of the scholars who will attend in each department (if more than one be contemplated), and the number and qualifications of the teaching staff to be employed in each, will determine approximately the grouping of the scholars for teaching, the number of rooms which should be provided in the building and the number of places in the several rooms. The rooms must be grouped compactly and conveniently so as to secure proper organisation and supervision. Every building intended for use as a public elementary school must be planned so that the children who will attend can be seated in the best manner for being taught. It is important to remember that the number of places provided in any room depends not merely on its area, but also on the lighting, the shape of the room (especially in relation to the kind of desk proposed), and the position of the doors and fireplaces, which should be arranged so as to allow the whole of one side of any room to be left free for the groups of desks.

For large departments containing from 350 to 500 places the most suitable plan is that of a central hall with the classrooms grouped round it; as a rule such a department would require from seven to ten classrooms. Smaller departments may be planned conveniently with the classrooms opening from a corridor, and a similar plan may be adopted even for larger departments. For small schools a schoolroom with one or more classrooms will be sufficient. There should always be at least one classroom, except in special cases.

Where the site is sufficiently large, open and fairly level, the most economical plan is that in which all the rooms are on the ground floor, and this arrangement is preferable on educational grounds. It is desirable that a building for use as a public elementary school should be on not more than two floors. A building on three floors is open to many objections, though it may be necessary in special circumstances, as, for example, on a site where land is very costly, or where it is otherwise impossible to give adequate area for playgrounds.

Section 2.—*Central Halls.*

When there is a central hall it should have a floor-space of not more than 4 square feet for each scholar for whom the school is recognised; about 3½ square feet for each scholar will be sufficient. The hall must be fully lighted, warmed and ventilated. (*a*) A single central hall may be provided for the joint use at separate times of two departments, provided that it is so placed as to be readily accessible from the classrooms of each department. (*b*) Where outdoor space is not available physical training should be given in the central hall or corridor. This purpose should be taken into consideration at the time when the building is planned. Since fixed gymnastic apparatus is unsuitable for children under fourteen years of age, a separate gymnasium is not required, and cannot be approved.

Section 3.—*Corridors.*

Large schools not built with a central hall must be provided with a wide corridor giving access to the rooms, and two or three of the rooms ought to be divided from one another by movable partitions only, so that on occasions one large room may be available. A corridor should be fully and directly lighted and ventilated, and from 8 to 12 feet wide, according to the size of the school.

Section 4.—*Schoolrooms.*

Where a schoolroom is the principal room of a school which has neither central hall nor corridor it should never be designed for more than 100 children, and a room of even smaller size is desirable. The width should vary according to the kind and arrangement of the desks (Section 6).

No schoolroom lighted from one side only can be approved. The gable ends should be fully utilised for windows, and there should be no superfluous windows opposite the teacher.

When a school consists of a single room, that room should not contain more than 600 square feet of floor-space.

Section 5.—*Classrooms.*

The number of classrooms should be sufficient for the size and circumstances of the school. (*a*) The classrooms should not be passage-rooms from one part of the building to another, nor from the schoolrooms to the playground or yard. Both schoolrooms and classrooms must have independent entrances. The rooms should be arranged so that each can be easily cleared without disturbing the work proceeding in any other room. (*b*) A classroom should not be planned to accommodate more than from fifty to sixty children; but in special cases somewhat larger rooms may be approved. In the absence of supplementary light the measurement from the window-wall in a room 14 feet high should not exceed 24 feet 8 inches. Except in very small schools classrooms should not be planned for less than twenty-four scholars. (*c*) The proportions of classrooms should vary with the kind and arrangement of the desks; but a long and narrow room should always be avoided, and a room approximating to a square is most satisfactory.

Section 6.—*Desks.*

Seats and desks should be provided for all the children, graduated according to their ages and placed at right angles to the window-wall. (*See* also Section 4 and Rule 6, Part II.) The seats should be fitted with backs.

An allowance of 18 inches per scholar at each desk and seat will suffice (except in the case of the dual desk), and the length of each group should therefore be some multiple of 18 inches, with gangways of 18 inches between the groups and at the walls. In the case of the dual desk the usual length is 3 feet 4 inches and the gangways 1 foot 4 inches. (*a*) In an ordinary classroom five rows of long desks or six rows of dual desks are best, but in a schoolroom or room providing for more than sixty children there should not be more than four rows of long desks or five rows of dual desks. If a schoolroom is 18 feet wide three rows of long desks or four of dual desks may be used; if the width is 22 feet the rows may be four and five respectively. Long desks should be so arranged that the teacher can pass between the rows. Where dual desks are used this is not necessary as the gangways give sufficient access, but the teacher should be able to pass behind the back row. (*b*) The desks should be very slightly inclined. An angle of 15 degs. is sufficient. The objection to the flat desk is that it has a tendency to make the children stoop. A raised ledge in front of a desk interferes with the arm in writing. The edge of the desk when used for writing should be vertically over the edge of the seat. (*c*) Single desks are not necessary in an ordinary public elementary school.

Section 7.—Accommodation.

The accommodation of the school, *i.e.* the number of places for which the school is finally recognised, will depend in part on the arrangement of the desks, which must be approved by the Board. (*See* Section 6, Part I. of these Regulations and Article 17 (*c*) of the Code.)

No central hall or corridor, and no classroom for cookery, laundry, handicraft, drawing or science will be counted towards the accommodation.

When the building to be erected is for the use of older scholars the plans of the schoolroom (if any) and classrooms must show an average of not less than 10 square feet of floor-space for each place proposed to be provided.

Section 8.—Infants' Schools.

Infants should not, except in very small schools, be taught in the same room with older children, as the methods of instruction suitable for infants necessarily disturb the discipline and instruction of the other scholars. Access to the infants' room should never be through the older children's schoolroom. (*a*) It is desirable that the partition between an infants' room and any other schoolroom or classroom should be impervious to sound, and there should be no habitual means of direct communication other than an ordinary door. (*b*) An infants' school and playground should always be on the ground floor. (*c*) No infants' classroom should accommodate, as a rule, more than sixty infants. (*d*) A space in which the children can march and exercise should be provided. A corridor intended for this purpose should not be less than 12 feet wide. (*e*) The babies' room should always have an open fire, and should be maintained at a temperature of not less than 60 degrees. (*f*) In infants' schools an allowance of 16 inches per child at long desks will be sufficient. Dual desks should be 3 feet long. (*g*) The accommodation of the school, *i.e.* the number of places for which the school is finally recognised, will depend in part on the arrangement of the desks, which must be approved by the Board. (*See* Section 6 and Article 17 (*c*) of the Code.) No central hall or corridor will be counted towards the accommodation. When the building to be erected is wholly for the use of infants the plans of the schoolroom (if any) and classrooms must show an average of not less than 9 square feet for each place proposed to be provided. (*h*) Where an infants' classroom is attached to a school for older children, and there is no corridor or hall available, it is desirable that the classroom should have a larger floor space than 9 square feet per child, and that provision should be made of sufficient space, free of desks, for exercise. This space should extend across the room, and be not less than 12 feet wide.

Section 9.—Rooms for Cookery, Handicrafts, &c.

As a rule a single room for cookery, or laundry-work, or handicraft, or science, or drawing, will serve for more than one school if provided as a centre in a convenient position. Every such centre should have its own lavatory and cloak-room.

Large schools, or schools of an exceptional type, may sometimes require special rooms for their exclusive use.

(*a*) *Cookery Centres.*—A cookery centre should be capable of accommodating twelve to eighteen at practice or thirty-six to fifty-four at demonstration at any one time. The larger size will require 750 superficial feet and 10,500 cubic feet. Provision for instruction in scullery-work is necessary. The sink should be placed in full view of the teacher and children, and should be fitted with a cold-water supply and a waste-pipe. There should also be a gallery or raised platform with desks to accommodate thirty-six to fifty-four children, according to the size of the room. The floor space for practical work should afford about 20 square feet for each scholar and should not be encumbered with desks, cupboards or stoves. In cookery-rooms the ventilation needs special arrangements. Where a gas-stove is used, it may be necessary to have a pipe fixed to carry off noxious fumes. The temperature should not be allowed to rise above 70 degs. The apparatus for lessons in cookery should include such stoves and other appliances as are usually found in the homes of the children.

(*b*) *Laundry Centres.*—A laundry centre should be of simple construction and entirely apart from the ordinary school buildings. The proper size for a laundry is about 750 square feet. It should have a gallery or raised platform with desks for forty-two children. Laundry tables should be large enough to allow at least 3 feet of space for each child when ironing. The ventilation of rooms for laundry-work needs special arrangements for the removal of steam.

(*c*) *Handicraft.*—In its plan, arrangements, construction, lighting and ventilation, a room for teaching handicraft should be modelled on a workshop rather than on a school. The construction should accordingly be simple. The roof may be either of lean-to or other ordinary form, according to circumstances. Its height at the windows in front of the benches need not be more than 10 feet. The light must be ample. The temperature should not be so high as in an ordinary classroom. A flat ceiling is not, as a rule, necessary. Ample ventilation should be provided by inlets at a height of 5 feet from the floor, and by outlets at the highest point. A room for twenty scholars should have a floor-space of about 700 square feet.

(*d*) *Science-Room.*—With the sanction of the Board a room for elementary practical work in science may be provided for the use of one large or several contributory schools. Such a science-room, if approved, should not as a rule contain more than 600 square feet of floor space. It should be suitably fitted for the instruction to be given in it, and, where necessary, a fume-closet may be provided. In addition to a science-room one of the ordinary classrooms may be fitted with a simple and suitably fitted demonstration table. But a special lecture-room is not necessary in an ordinary public elementary school.

(*e*) *Drawing Classrooms.*—A drawing classroom can be sanctioned only if it is likely to be used for a reasonable time every week by the scholars from one large or several contributory schools. A suitable size for such a room is 600 square feet of floor space. Light should be admitted at a suitable height and angle from the north, north-east or east.

Section 10.—Higher Elementary Schools.

A higher elementary school should in general be planned in accordance with the principles applicable to an ordinary public elementary school, but it is important that the curriculum of the school should have been determined, and that it should have been generally approved by the Board before an architect is instructed. Attention is directed to the following points of importance:—

1. For a higher elementary school accommodating from 300 to 350 scholars eight to ten classrooms will generally be required, since every class should have its own classroom. No classroom should accommodate more than forty scholars. (*a*) The classroom may be furnished with single or dual desks as may be desired. If single desks are adopted, a classroom should have an area of about 15 square feet per scholar. Classrooms fitted with dual desks need not be so large, but a minimum of about 12 square feet per scholar will be requisite.

2. There must be available for use by the scholars of a higher elementary school special rooms of suitable size and proper equipment, if any such are required for giving the instruction which is provided in the approved curriculum. If special rooms are otherwise available, they need not be provided in the building of the higher elementary school, but if special instruction is to be given elsewhere than in the building occupied by the higher elementary school full information must be furnished, when the plans are submitted, showing that the needs of the scholars will be properly met.

(*a*) If cookery, laundry-work or handicraft is to be taught in the school building the room in which each is to be taught should be provided in accordance with Section 9.

(*b*) If advanced drawing is taught in the school a drawing classroom is desirable. It should provide 30 square feet of floor-space for each scholar who will be taught in it at any one time. If the school has a suitably lighted central hall that would answer for a drawing classroom, but no class other than a drawing class should be taught in a central hall.

(*c*) (i) A laboratory, if included in the building, should afford 30 square feet of floor-space for each scholar who will be instructed in it at any one time. (ii) A laboratory must have suitable tables. These should be well lighted, and should be fitted as required for the experimental work included in the approved curriculum. If chemistry is taught the laboratory should have sinks, cupboards and the necessary fume-closets.

(*d*) (i) If there is a separate lecture-room it should be fitted with a suitably furnished demonstration table. If chemistry is to be taught the lecture-room, if any, should have a fume-closet. (ii) If chemistry or physics is taught, and there is no separate lecture-room, one or more of the classrooms may have a suitable demonstration table, and a fume-closet if chemistry be taught. (iii) A small preparation-room may be provided near the lecture-room, or other room used for the purpose, in schools where science is taught.

Section 11.—*Teachers' Rooms.*

In large schools there should be provided for the use of the teachers a small room or rooms with suitable lavatory accommodation. A store-room for books and other school material should adjoin the teachers' room.

Section 12.—*Teacher's House.*

The residence (if any be provided) for the master or mistress should contain a parlour, a kitchen, a scullery and three bedrooms, and the smallest dimensions which the Board can approve are :—

For the parlour . . .	14 ft. by 12 ft.	of superficial area	9 ft. in height to wall-plate.
,, ,, kitchen	12 ft. by 12 ft.		9 ft.
,, one of the bedrooms	14 ft. by 12 ft.		8 ft. if ceiled at wall-plate ; or 7 ft. to wall-plate, and 9 ft. to ceiling.
,, two other bedrooms	12 ft. by 8 ft.		

(*a*) The residence must be so planned that no room is a passage-room, and that the chimneys are not all on the external walls. (*b*) There must be no internal communication between the residence and the school. (*c*) Windows should be carried up as nearly to the ceiling as practicable. (*d*) There must be a separate and distinct yard with offices. (*e*) No dwelling-house should be built as part of the school-house.

DEMOLITIONS IN WESTMINSTER.

THE following reply has been sent by the Ecclesiastical Commissioners to a recent memorial on the subject of their Westminster property :—

10 Whitehall Place, London, S.W. : July 7, 1905.
File No. 41593.

Sir,—I have submitted to the Ecclesiastical Commissioners your letter of the 7th ult. and the memorial forwarded therewith praying that, on the grounds of antiquarian and architectural interest and picturesque character of the streets and buildings, the Commissioners will not permit the houses still standing in Barton Street, Cowley Street and Great College Street, Westminster, to be pulled down.

In reply I am directed to say that, having regard to the purposes for which the property is held by them, the Commissioners are not free wholly to neglect financial in favour of æsthetic and sentimental considerations, and it is the fact that at the present time the sites of the houses in question are more valuable than the houses as they stand and very much more valuable than the annual rents which the Commissioners actually receive.

With the exception, however, of the houses on the south side of Cowley Street, which will necessarily be disturbed by the projected widening of Wood Street, and possibly some of those on the west side of Barton Street (many of which are so decayed that they cannot remain much longer), there does not appear to be any probability of the other houses belonging to the Commissioners in these streets being cleared away for rebuilding within the next fifteen years or thereabouts, but the Commissioners must not be understood to give any pledge as to their action during that period or afterwards.

The sites which have already been cleared by the Commissioners in this area were covered with buildings more or less decayed. The new buildings which have been erected, or are in course of erection, under leases from the Commissioners cannot be considered as unworthy, from an architectural point of view, of their surroundings. No buildings will be erected on these sites the plans of which have not been submitted to the Commissioners for their approval, and in discharging the duty thus cast upon them, the Commissioners will not exercise less care in the future than they have in the past.

In these circumstances the Commissioners do not feel that the apprehension and concern expressed by the memorialists are well grounded.

With regard to the allegations contained in the memorial of conduct on the part of the Commissioners amounting to the commission of breaches of faith with their lessees, the Commissioners do not feel called upon to discuss these matters with the memorialists, but to avoid the misconception which might be the consequence of passing over these allegations in silence, they think it well that the memorialists should be distinctly informed that no such assurances as alleged have ever been given by or on behalf of the Commissioners.—I am, sir, your obedient servant,

(Sgd.) A. de Bock Porter.

James Saunders, Esq., Hon. Sec. to the Westminster Preservation Society, 9 Barton Street, Great College Street, Westminster, S.W.

THE NATIONAL TRUST.

AN ordinary general meeting of the National Trust for Places of Historic Interest or Natural Beauty was held on Monday at the offices of the Society, 25 Victoria Street, S.W. Sir Robert Hunter presided. The annual report and statement of accounts submitted by the Council were received and adopted. It was announced that 7,500*l.* had been received or promised for the Gowbarrow purchase fund, and that eight persons had responded to the offer of a lady to give 50*l.* if nineteen others would give the same before the end of August. A special appeal was therefore made for twelve more gifts of 50*l.* It was also stated that there is a prospect of the Trust acquiring two buildings of historic and architectural interest. The report of the Council dealt also with the electric tramways in the valleys of Snowdon, Wordsworth houses at Penrith and the walls of Berwick-upon-Tweed. The Council having been advised that the freehold of a disused church cannot be vested in it, the Trust has not been able to undertake the charge of John Paston's church, St. Peter's Hungate, Norwich. The owner of Kirkstead chapel, Lincolnshire, a fine example of Early English architecture, has not been found willing to consider the wishes of the Trust with regard to the steps to be taken to insure its preservation.

WILTS ARCHÆOLOGICAL SOCIETY.

THE fifty-second annual meeting of the Wiltshire Archæological Society was held this year in Marlborough, under the presidency of Mr. H. E. Medlicott. The report stated that among the gifts Sir Edmund Antrobus presented a bound copy of the pleadings, shorthand notes of evidence and the judgment in the recent action concerning the alleged rights at Stonehenge, and fourteen large photographs taken for the purposes of the litigation. The following is the section of the report relating to Stonehenge :—

"The legal proceedings brought to enforce the alleged rights of way at Stonehenge, ending as they did in the vindication of the position taken up by the owner, were a matter of widespread interest and discussion in the press. Our Society has always placed the preservation and care of the monument before any other consideration whatever, and it cannot but be a matter of congratulation to us that the advice given to the owner by representatives of our Society, in concert with those of other societies concerned, and adopted by him, has not been rendered nugatory. We would venture to express a hope that Sir Edmund Antrobus may now see his way to add to the good work he has already done in the raising of the leaning stone, by carrying out some, if not all, of the remaining recommendations of the Stonehenge committee, viz. the concreting of the bases of the leaning stones in the outer circle ; the replacement of the stones which fell in 1900 ; and, lastly, the raising of the great trilithon now lying prostrate."

According to the report in the *Wilts County Mirror* the first place visited was St. Mary's Church, and one of the churchwardens (Mr. C. E. Ponting) gave an interesting address. He thought it was an undoubted fact that a Norman church had existed on this spot from 1160, with enlargements in the thirteenth century. In the fifteenth century the church underwent a complete remodelling. Early in the sixteenth century the present tower was built. A great fire devastated the town of Marlborough in 1653, and the church was greatly damaged. It was shortly afterwards reconstructed and Mr. Ponting pointed out the leading features of the changes introduced at that period. Shortly before the fire Marlborough had been besieged by Royalists marching under the command of Lord Digby, the point of attack being from the north-west. Colonel Ramsay, who commanded the Parliamentarians, took refuge in the church, and the marks of bullets fired at him are to be seen on the north side of the tower; several of the bullets were extracted when the tower was repaired in 1884.

The Rev. Canon Wordsworth described St. Peter's Church, and pointed out the salient features of the architecture. He said the church now stands, in its main features, plan and structure, walls and arches and windows, as it did when it was a new building (presumably on the site of a Norman or early church) about 1460.

The party next went on to the college, where Mr. C. E. Ponting added much to the general enjoyment by his descriptions of the architectural features and historical connections of the earlier portions of the college buildings.

At the evening meeting the Rev. H. G. O. Kendall read a paper on "Neoliths." The Rev. Canon Wordsworth followed with a paper on "The Death at Marlborough of Robert Cecil, the First Earl of Salisbury." On the following day the members drove to Mildenhall, where the church was visited and described by Mr. C. E. Ponting in the absence of Mr. E. Doran Webb, F.S.A. The oldest part of the existing church is the south arcade, which was built in 1160, and the north arcade was erected about thirty years later. In 1816 the church was in such a bad state that, according to inscriptions, it was all but rebuilt by twelve men who generously contributed towards this object. From Mildenhall the party went to Axford, where the old chapel was visited. Mr. Doran Webb described the chapel. He said at one time there was a canon's stall for Axford, but this gradually died out. The chapel was a thirteenth-century building, but later a house was built on to the chapel, and it was in this house that a plot was hatched against the Parliamentary forces. The plot was found out, and the leaders fared very badly. The chapel was inspected in the interior, and parts of the original masonry were visible, as well as parts of the beams. Ramsbury Church was next visited; it was also described by Mr. Doran Webb. On arrival at Littlecott House the party was kept waiting for some time owing to some misunderstanding. When at length they were admitted there was only an opportunity for a very cursory examination. The hall, in which the leathern doublets and the armour of the retainers are still hanging, was visited. Mr. C. E. Ponting and Mr. Doran Webb gave a brief history of the house. Knowle Pit and Chapel were next visited, and Mr. S. B. Dixon (the discoverer of the flint implements in the pit) was present, and gave his opinion as to the reason why they were at that particular spot. The old chapel was also inspected, and this is now used as a wood shed. Several present were of opinion that it was a domestic chapel for the use of a manor-house which might have been in the neighbourhood.

The collection of Mr. J. W. Brooke at his house on the London Road was examined. A large room was built for the purpose. It is a remarkable collection for private ownership, and there can be but few like it in any county. There are many implements and weapons of prehistoric times; British, Roman and Saxon coins; ornaments worn by the Romans who occupied the district; weapons left by those who fought in the Civil Wars, &c. They are not all from Wiltshire; some come from neighbouring counties, others from further afield. But the majority were found in the immediate district, and this adds to their value and interest. There is also a geological collection, and remains of vegetable and animal life in fossil form. The flint implements are numbered by hundreds, and they are so classified as to form a history in themselves. They are deemed to prove that man existed in the Neolithic period, and there are many weapons of the Palæolithic age. The Bronze age is also illustrated by a little collection of swords, celts, a sickle, &c. Pottery is also well represented. The Roman collection includes a couple of small glass bottles, some coins, statuettes, jewellery and ornaments. There is also a collection of Wiltshire tradesmen's tokens.

It having come to the knowledge of the Society that the Vicar of Bedwin intended taking out of the church a fifteenth-century screen, a resolution was passed at the Society's meeting to the effect that the Society regretted to hear it was proposed to take the screen from the church, and they hoped that this piece of history would be preserved within the church walls. It was decided to send a copy of the resolution to the vicar, the patron of the living and the bishop of the diocese. A vote of thanks to the Chairman for presiding concluded the meeting.

On the last day train was taken to Ludgershall, where the old market cross, church and castle were visited. The castle was a royal fortress, and was built by Bishop Roger at about the same time as Devizes Castle. The wall of a part of the keep is still standing. The church, like many others in this locality, has no chancel arch, and portions of the building are about the thirteenth or fourteenth century. From thence breaks were taken to Biddesden, where the old manor-house was visited. Appleshaw was next seen, and on the way sites of old Roman villas were passed. At Appleshaw masonry, marble, &c., were inspected, and were explained by Mr. Richens. Penton Church was next visited, but there was nothing of very great interest. Hampton Church was then inspected, and a curious thing in this church was a small window under a large one in the south transept. From each transept there were squints. Thruxton Church was the last place visited, and in this church was a very fine brass of the fourteenth century. Mr. E. Doran Webb explained the details of the building.

LIVERPOOL CATHEDRAL.

It was stated at a meeting of the rural deanery of Childwall that an average of about 180 men per week had been employed on the site in the work of excavation, &c., and during one time the carts were removing 120 loads per day. The average depth of the rock was about 10 feet, taking one place with another, although in some cases holes had been dug to a depth of something like 50 feet. On the eastern side some of the holes had been run down to a depth of 60 feet, or an average of 40 feet, and by an interesting process the concrete had been placed tier by tier. All this went to show how carefully the foundations were being thought out and secured. The cost of those portions of the building now contemplated by the committee was estimated at about 400,000*l*., and of this sum 100,000*l*. was still required, this including the lady chapel. It did not include the towers, and they were hoping that the money for these would come in the form of a gift from some wealthy Liverpool merchant. A sum of 2,000*l*. would be required for one of the porches, and it had been suggested that the contributions of the Sunday scholars in the diocese might be set apart for this special purpose. It is anticipated that all the foundations will be completed by next March.

HYDE ABBEY.

An effort is about to be made to raise funds for excavating, preserving and enclosing the remains of the ancient abbey of Hyde, the burial-place of King Alfred, his wife Queen Elswitha, and his son King Edward the Elder. The remains of the abbey are within a short distance of the spot where the statue of King Alfred, by Mr. Hamo Thornycroft, R.A., was erected in 1901 to commemorate the 1,000th anniversary of his death; but up to the present time no proper care has been taken for their preservation. King Alfred died in 901, and his body was placed in the Old Minster, but was subsequently removed to the New Minster, which was built shortly after his death. The bodies of the king, his wife and son were eventually transferred to Hyde Abbey outside the wall of the city, on its completion in 1110, and finally buried there. In 1538, at the dissolution of the monasteries, Hyde Abbey was given by Henry VIII. to Wriothesley, Earl of Southampton, who lost no time in pulling it down and selling the material. In 1788 the county authorities erected a bridewell on the western portion of the nave. In digging the foundations for this building many objects of interest were found, which were either dispersed or ruthlessly broken up. The bridewell was taken down in 1850, but a row of cottages have since been built in much the same position. The present condition of the site is as follows:—At the east end, where the apse of the church stood, the ground is to a great extent undisturbed, and large portions of the foundations remain. On the south side of the nave stand several cottages. To the west, outside the area of the church, there remain a Perpendicular gateway and some portions of the walls. The object of the committee is:—(1) To remove the surface soil, the accumulation of centuries, and carefully uncover the foundations; (2) to provide for the safe custody of any relics which may be found; (3) to secure the preservation of such of the remains of the abbey as still exist; (4) to purchase that portion of the site which is not already owned by the Corporation; (5) to fence round the entire area of "Hyde-Mede." Subscriptions may be paid to the account of the Hyde Abbey Remains Preservation Fund at the Union and Smith's Bank, Winchester and London. Further particulars may be obtained from Mr. Thomas Holt, the honorary secretary, at the Guildhall, Winchester.

CRINGLEFORD CHURCH.

THE work of restoring the church of St. Peter, Cringleford, Norwich, commenced in 1898, has at length been completed. According to the *Norwich Times* the nave was restored and the south aisle was built in that year, the work being carried out by Messrs. Hawes & Son, whilst the more recent work done, viz. the restoration of the chancel, has been entrusted to Mr. E. T. Taylor, of Cringleford, who also holds the position of parish clerk. Mr. A. J. Lacey, the diocesan surveyor, was the architect employed, and he has carried out the whole work with excellent taste and in a thoroughly conservative spirit. During the process of restoration many interesting discoveries were made. Among recent finds was a Saxon window in the north chancel wall, and Norman diaper-work in two patterns on two splays inside. There was also found a lowside or confessional window, that and the squint both being run together, a most unusual feature. These lowside windows generally dated from 1250 to 1350, and were probably a result of auricular confession being made compulsory in 1216. The height of the Cringleford window is 3 feet 6 inches from the floor line on the exterior and 2 feet 6 inches on the interior. They are usually on the south, but that at Cringleford is on the north, probably because the majority of the parishioners lived in that direction, and one regulation stated that confession was to be visible and not audible. Three pieces of Saxon plaiting-work in stone, in addition to the six pieces found during the restoration of the nave, were also discovered. The vicar (the Rev. F. S. Cogswell) has expressed the opinion that these are portions of the once interesting "Cringleford Cross." Two Early English niches on the north and south sides of the east chancel wall, still retaining a large proportion of the original colouring, were uncovered. With reference to Cringleford cross, it may be mentioned that between 1250 and 1300 A.D. there lived in the "Northgate" Peter and Petronilla at the Cross. Peter was a witness to the transfer of the mill to the hospital. These two people granted an acre of land to the hospital. In 1291 Petronilla, then a widow, made a charge on a piece of land to have four masses said for her soul in the parish church every Christmas Day. During the same period there lived "Matilda ad Crucem" and "Alexander ad Ecclesiam," pointing to the fact that "Church" and "Cross" were separate; but when the cross was broken up some portions of it were used for the new rood steps and in other parts of the church.

WORCESTER CATHEDRAL.

A PARTY of members of the Bristol and Gloucestershire Archæological Society visited Worcester Cathedral last week. The president for the year, Bishop Mitchinson, in describing the exterior of the building, said as he looked towards the great window that there was astonishingly little that required comment, as a great deal of what they saw was new. The present west window was new, and much of the other work was also. There was formerly no west door, as the great north door admitted the people who lived around to come to their devotions. The monks obtained access to the cathedral through the cloisters. As they passed round the exterior of the building they would observe the nave was more or less Decorated, and the windows were Decorated. The choir was what it professed to be, Early English. The east end was a peculiarly beautiful composition, purely restoration or reconstruction. Still it was the east end of an Early English church, and he did not know that a better could have been evolved. The real interest of the exterior of Worcester Cathedral was when they got to the monastic buildings, which were on the south side, unlike Gloucester, where they were on the opposite side. In the cloisters attention was drawn to what remained of the monastic buildings. Upon someone calling attention to the Edgar Tower, he said it was a rather plain and commonplace gatehouse of the monastery, and had no more to do with Edgar than he had. The main feature of the monastic buildings, the refectory, afforded scope for some interesting observations and suggestions. It is at present the King's School. The headmaster of the school expressed his pleasure at receiving the archæologists, who admired the singularly beautiful interior. The President explained that when Henry VIII. became possessed of the monastery he presented the refectory to the school, and it had been used as a school since. The oak panelling was new. In a few particulars furnished by the headmaster he spoke of the destruction of some of the details, which might be due to Cromwell's soldiers who were billeted there. The room was about the same date as Westminster Hall and the lines were similar though smaller.

In the cloisters Canon Bazeley pointed out the beautiful groining. The Jesse tree and its development, and Our Lord's mother being crowned queen by the three Persons of the Trinity are the chief subjects. In the cloisters the attention of the visitors was arrested by the memorial-stone with the sole inscription "Miserrimus," which covers the remains of a broken-hearted minor canon, a nonjuror and passive resister, who, losing his appointment for conscience sake, was reduced to poverty, and asked that "most miserable" should be the only reminder of his place of interment. The chapter-house was inspected, and soon after the Commandery (St. Wulstan's Hospital) was visited, this completing the programme before luncheon.

In the afternoon the party again repaired to the cathedral, now visiting the interior, with Canon Bazeley acting as guide. He had prepared historical and descriptive notes of the edifice, and these were valuable in going over the splendid interior. The cathedral where Boisil, probably a monk of Whitby, and Ofter, who, when Boisil became infirm, was called to be Bishop of Worcester, worshipped, was probably of wood. It remained for St. Oswald, the successor of St. Dunstan in the see of Worcester, to build a church of stone. Of Oswald's church no traces remain, but after the Danes had worried this part of the country, Wulstan, the only Saxon bishop who had retained his see under the Norman rule, commenced the erection of a third cathedral. Of Wulstan's church there remains intact the beautiful crypt, which gives us the form of the original church. The crypt, with its forest of columns, was inspected with peculiar interest. It consisted originally of a central nave, divided into four gangways, and a double ambulatory. The eastern part of the ambulatory has been blocked by sepulchral vaults, and several of the arches are filled with solid masonry to support the superstructure of the choir. There is an altar on the right, so that evidently service was sometimes held here. The chantry chapel in memory of Arthur, Prince of Wales, who died in 1503 at Ludlow, was another feature specially described. It is rich in figures of angels, saints and kings, and in Royal badges. A prominent object in the centre of the presbytery is a sixteenth-century altar tomb, where lies the effigy of King John, the earliest regal effigy in England. Canon Bazeley narrated how that gruesome monarch, when dying at Newark Castle in 1216, besought those around him that his body might be laid between the shrines of St. Oswald and St. Wulstan at Worcester. He hoped that notwithstanding his sins his body might be unmolested by the evil one when thus protected. At the Reformation the commissioners of Henry VIII. destroyed the shrines and buried the bones of the saints, leaving John's tomb standing alone, but intact. The figure is now gaudy with gilt, but originally the robes were coloured appropriately. As, however, the tombs of monarchs are held to be royal property, certain officials, acting in the name of the late Queen about forty years ago, substituted the gilt grandeur. Mr. Dauncy, of Gloucester, produced a pamphlet in which the original state of the effigy was described. Some of the members of the Society remained in the choir for evensong, and admired the work carried out some years ago by Earl Dudley.

ANCIENT EARTHWORKS.

A REPORT of the committee on Ancient Earthworks and Fortified Enclosures was presented to the Congress of Archæological Societies on the 5th inst. The committee again urge the secretaries of local archæological societies to obtain schedules of the ancient earthworks and defensive enclosures in their respective districts, and to publish them in their "Transactions" or as a separate pamphlet, hoping by these means to increase public interest in these priceless relics of our country's story. It is suggested that reprints of such schedules, accompanied so far as possible by accurate plans and sections of works of each class, should be distributed not only to landowners and occupiers, but also amongst the county, borough, rural, urban and district councils, which now so largely control the affairs of the country, and whose members may be able to use influence to prevent the destruction or mutilation which from time to time threatens the remains of so many early fortresses, camps and strongholds throughout the land.

England is far behind many other civilised countries in the scope of its legislative protection of ancient monuments, but some movement in the desired direction is provided by the Ancient Monuments Protection Act of 1900, which empowers county councils to purchase by agreement, or to contribute towards the cost of maintaining, any such records of earth or stone. That further protective legislation is eminently desirable will be admitted by all who estimate the ever-increasing value of these object-lessons left for the benefit and instruction of posterity.

Whilst regretting that more archæological societies have not already taken the desired work in hand, the committee recognise the difficulties, chiefly financial, which are serious obstacles to the undertaking, but hope that the importance of the object in view may secure willing workers. In the schedules and plans, appealing to a wide public, no great amount of detail can be expected, but the committee take the opportunity of pressing upon those contributing plans of earthworks, &c., to archæological societies to adopt an exact method of delineation of the features, with information as to the levels and other details not only of the artificial work, but of the immediately surrounding land. The committee hope shortly to issue specimen plans and sections to serve as models for similar work in the pages of archæological societies' transactions, those which appear in the scheme issued in 1903 being produced rather with the view of popularising the subject.

The committee report that the earthworks of the following counties are in hand, both as to schedules and plans:—Essex, Lincolnshire, Oxfordshire, Warwickshire, Staffordshire, and part of Westmorland and Lancashire. The editors of the Victoria County Histories have been in close touch with the committee, and it is pleasant to state that, in addition to Essex and Bedfordshire remains, referred to in the report of last year, those of Warwickshire have been recorded (by Mr. Willoughby Gardner) in the published volumes of the series. The Rev. E. A. Downman is contributing to the Victoria History plans of works in Northamptonshire; Dr. Cox is writing on those in Derbyshire; the remains in Berkshire are being described by Mr. Harold Peake; and Durham and Sussex are ready for the press. The Essex Archæological Society have issued a preliminary list of homestead moats, asking for information to complete the schedule. The Wiltshire Archæological and Natural History Society have secured about fifty plans of the county earthworks, drawn to scale by the Rev. E. A. Downman, and it is hoped will issue a complete schedule of the remains in Wiltshire. The Cambridge Antiquarian Society hope shortly to publish an account of the works in that county, with plans by Mr. Harding. Mr. G. G. T. Treherne, a member of the Cambrian Archæological Association, is preparing fully detailed plans and sections of ten camps in the district of Carmarthenshire known as Laugharnshire.

Excavations of several ancient defensive and other works have been undertaken during the last twelve months, in addition to the well-known operations at Silchester and Caerwent, including Infell, near Ponsonby, Cumberland, by Mr. W. G. Collingwood, F.S.A., and Dr. C. A. Parker, F.S.A.Scot.; Small Down, near Evercreech, Somerset, by Mr. H. St. G. Gray, who has produced a plan, section and views; and the Rev. H. H. Winwood, M.A., has published the result of excavations of the camp at Landsdown, near Bath, Somerset. Mr. Ambrose Harding has excavated on the site of Arbury, Cambridge, which is probably a pre-Roman stronghold, and a notice of the resulting discoveries will appear in the Proceedings of the Cambridge Antiquarian Society. Mr. D. H. Montgomerie, following on the investigations of Mr. William Page, F.S.A., has been actively engaged in uncovering most interesting remains of the defences and other portions of the castle works of Berkhamsted, Hertfordshire. Mr. John Hutton, M.P., the owner of the site of Solberge, Yorkshire, has made preliminary excavations likely to lead to interesting results.

Destruction or mutilation of earthworks must ever command the sorrowful attention of archæologists. Mr. Percival Ross, president of the Bradford Historical and Antiquarian Society, reports that the Roman camp at Ilkley has been cut through from south to north at its eastern end to form a new road, the district being in course of development for building purposes. Mr. Worthington G. Smith, of Dunstable, writes that the quarrying operations have already destroyed part of the fosse on the west side of Maiden Bower, one of the most interesting early earthworks in Bedfordshire. Mr. J. C. Wall, who is examining the earthworks of Devonshire, mentions that a fine prehistoric stronghold in the south of that county is in course of demolition for agricultural purposes. No doubt many more instances could be included in the black-list of destruction, but *per contra* it is satisfactory to mention that the Bradford Historical and Antiquarian Society has been successful in saving a large circle on Baildon Moor from interference by the constructors of a road.

Tumuli, barrows and ancient boundary-banks and dykes deserve attention at the hands of those engaged in recording the earthworks of a county, and it is suggested that a list should be compiled. This is the more necessary as such remains disappear with even greater rapidity than earthwork camps and strongholds. In this connection it may be noticed that a remarkably full list of such works in Derbyshire will appear in the Victoria History of that county, 153 examples being recorded.

The classification of defensive works as recommended by the committee now stands as follows:—(*a*) Fortresses partly inaccessible, by reason of precipices, cliffs or water, additionally defended by artificial works, usually known as promontory fortresses. (*b*) Fortresses on hill-tops with artificial defences, following the natural line of the hill; or, though usually on high ground, less dependent on natural slopes for protection. (*c*) Rectangular or other simple enclosures, including forts and towns of the Romano-British period. (*d*) Forts consisting only of a mount with encircling ditch or fosse. (*e*) Fortified mounts, either artificial or partly natural, with traces of an attached court or bailey, or of two or more such courts. (*f*) Homestead moats, such as abound in some lowland districts, consisting of simple enclosures formed into artificial islands by water moats. (*g*) Enclosures, mostly rectangular, partaking of the form of (*f*), but protected by stronger defensive works, ramparted and fossed, and in some instances provided with outworks. (*h*) Ancient village sites protected by walls, ramparts or fosses. (*x*) Defensive works which fall under none of these headings.

TESSERÆ.

Shortcomings of Antique Statuary.

In the study of the antique marbles an observing eye will soon discover that they are far from being of equal perfection. Many have been injured by restoration, which fortunately, however, the Elgin fragments have escaped, and it may be hoped will for ever escape, and many are not of the best times, which have always been the briefest times of art. If the remains of Roman sculpture, whether by Greek or native artists, are not on the whole equal to the Greek art of the Phidian era, they yet abound with works for the preservation of which we cannot be too thankful. The mighty "Farnese Hercules" and the "Belvidere Apollo" "coming forth as a bridegroom," are "for all time." Critics may find fault, and when the Elgin "Theseus" arrived in England attempts were made to degrade the "Hercules" and "Apollo" by comparisons with a noble work as matchless as themselves—attempts that fully proved the wisdom of Constable's remark, that "No fine things will bear or want comparisons; every fine thing is unique." There is, however, one celebrated antique in the attitude of which, as was pointed out by Dr. Spurzheim, a defect for which not all its excellence can atone. The hero, misnamed "The Fighting Gladiator," throws himself forward to attack, while his left arm is raised in defence, and yet a blow from a child on that arm would knock him to the ground, the right leg, which should render the attitude a firm one, being advanced instead of the other. Indeed nature would dictate a contrary position of the legs without any knowledge of the science of defence, as will be at once felt if we attempt to place ourselves in the attitude. How such a serious fault should have been committed it is difficult to conceive. The only conjecture is that the position of the limbs was arranged by the sculptor as a matter of composition, without, what would have been the better mode, desiring a living model to place himself in a fighting attitude.

Egyptian Building.

The architecture of Egypt divides itself into two great periods, the first represented by the pyramids and the second by the temples. All chronological systems, however widely differing in the actual dates assigned, concur in placing the pyramids of Egypt as the oldest of all architectural objects either in existence or of which any record or description whatever is preserved. Yet, with these evidences of extreme antiquity, we are startled to find Egyptian art as nearly perfect as in later ages, when Greek science and refinement had been brought to bear on its elaboration and refinement. Think only of the mechanical powers involved in transporting the huge blocks of granite from Syene to Memphis, of squaring them with a mathematical accuracy never surpassed, of polishing them to a surface smooth as glass, and of raising them higher than such blocks were ever raised in any buildings in the world, and setting them there with so wonderful a precision that after thousands of years have passed over them there they yet remain without flaw or settlement. As examples of technic art they are unrivalled among the works of men, but they rank among the lowest if judged by the æsthetic rules of architectural art. The same character belongs to the tombs and buildings around them; they are low and solid, and possess neither beauty of form nor any ornamental feature worthy of attention or admiration, yet, like the pyramids, in evidences of lasting stability they have attained the object their builders had principally in view when they designed them. The moment we pass the local limits of the necropolis of Memphis we become aware of the presence of a new style of architecture, differing in almost every respect from that which preceded it and in many respects remarkably antagonistic. No longer do we see pyramids or traces of quaint wooden structures, but in place of these everywhere obelisks and temple-palaces. The simple grandeur they evince is universally owned, and their almost unvarying characteristics are familiar too, but of their enormous size or extent nothing but an actual survey can afford a true conception. The temple of Karnac Mr. Fergusson designates as "perhaps the noblest effort of architectural magnificence ever produced by the hand of man," the principal dimensions being 1,200 feet in length by about 360 in breadth, covering therefore about 430,000 square feet, or more than twice the area of St. Peter's at Rome. It must, however, be recollected that our modern buildings are all under one roof, which was not the case of old; a considerable portion at Karnac was quite uncovered. The temple at Luxor is another work of overwhelming grandeur; and besides these there stood on the western side of the Nile the Memnonium or great temple of Amenophis III., now almost entirely ruined owing to the marshy site on which it was built. After a long period of misfortune and decay, from which she was recovered by the enlightened policy of the Ptolemies, Egypt presented in her architecture a like revival, not to an equal purity with the great national era, but still with much richness and splendour. Of edifices erected at this later period may be mentioned the temple at Edfou, usually known as Apollonopolis Magna, those at Dendera, at Kalabsche and at Philæ. There are also not a few curious rock-cut temples both in Egypt proper and in Nubia, also many excavated labyrinthine tombs of mysterious solemnity. Of domestic architecture very little remains; but in paintings and sculpture so many illustrations have been handed down to us that there is no difficulty in forming a correct judgment both of its style and details. There is every reason to believe that the cities which have passed away were every way worthy of the temples that adorned them, and that the streets were as splendid and tasteful as the public buildings themselves, and displayed, though in a more ephemeral form, the same wealth and power which astonish us in the great monuments that remain.

The Teutonic "Mark" or "March."

If the nature of an early Teutonic settlement, which has nothing in common with a city, be duly considered, there will appear an obvious necessity for the existence of a mark or boundary and for its being maintained inviolate. Every community not sheltered by walls or the still firmer defences of public law, must have one to separate it from neighbours and protect it from rivals; it is like the outer pulp that surrounds and defends the kernel. No matter how small or how large the community—it may be only a village, even a single household or a whole state—it will still have a mark, a space or boundary by which its own rights of jurisdiction are limited and the encroachments of others are kept off. The more extensive the community which is interested in the mark, the more solemn and sacred the formalities by which it is consecrated and defended; but even the boundary of the private man's estate is under the protection of the gods and of the law. "Accursed," in all ages and all legislations, "is he that removeth his neighbour's landmark." Even the owner of a private estate is not allowed to build or cultivate to the extremity of his own possession, but must leave a space for eaves. Nor is the general rule abrogated by changes in the original compass of the communities; as smaller districts coalesce and become, as it were, compressed into one body, the smaller and original marks may become obliterated and converted merely into commons, but the public mark will have been increased upon the new and extended frontier. Villages tenanted by Heardingas or Módingas may cease to be separated, but the larger divisions which have grown up by their union—Meanwaras, Mægsetan or Hwiccas—will still have a boundary of their own; these again may be lost in the extending circuit of Wessex or Mercia; till, a yet greater obliteration of the marks having been produced through increasing population, internal conquest or the ravages of foreign invaders, the great kingdom of England at length arises, having wood and desolate moorland or mountain as its mark against Scots, Cumbrians and Britons, and the eternal sea itself as a bulwark against Frankish and Frisian pirates. But, although the mark is waste, it is yet the property of the community; it belongs to the freeman as a whole, not as a partable possession; it may as little be profaned by the stranger as the arable land itself which it defends. It is under the safeguard of the public law long after it has ceased to be under the immediate protection of the gods; it is unsafe, full of danger; death lurks in its shades and awaits the incautious or hostile visitant; all the markland was with death surrounded, the snares of the foe; punishments of the most frightful character are denounced against him who violates it; and though in historical times these can only be looked upon as comminatory and symbolical, it is very possible that they may be the records of savage sacrifices believed due, and even offered, to the gods of the violated sanctuary. We can well believe that we, too, had once our Diana Taurica. The marks are called accursed; that is, accursed to man, accursed to him that does not respect their sanctity; but they are sacred, for on their maintenance depend the safety of the community and the service of the deities whom that community honours. And even when the gods have abdicated their ancient power, even to the very last, the terrors of superstition come in aid of the enactments of law; the deep forests and marshes are the abodes of monsters and dragons; wood-spirits bewilder and decoy the wanderer to destruction; the Nicors house at the side of lakes and marshes; Grendel, the man-eater, is a "mighty stepper over the mark;" the chosen home of the firedrake is a fen. The natural tendency, however, of this state of isolation is to give way; population is an ever-active element of social well-being, and when once the surface of a country has become thickly studded with communities settled between the marks, and daily finding the several clearings grow less and less sufficient for their support, the next step is the destruction of the marks themselves, and the union of the settlers in larger bodies and under altered circumstances.

Byzantine Architecture.

Architecture in particular found support and patronage at Constantinople even in those ages when the plastic arts had sunken into a state of barbarism and almost entirely disappeared. We read in the histories of the Byzantine emperors of the seventh, eighth and ninth centuries accounts of buildings of astonishing magnitude, splendour and beauty. These qualities especially distinguished the palace of Justinian II. among the numerous edifices erected by him; the walls of it were overlaid with gilded bronze and with marble slabs, and the entire floor was of marble. He, however, was surpassed by one of his successors, Theophilus. This emperor built the celebrated Bucoleon, in which stood a bronze lion seizing a cow; the summer palace Bruos, the palace named the Pearl, the Pentapurgion, the Karian palace and the Triconchus. To the last building adjoined the colonnade of the Sigma, and an acoustic structure was contiguous to the latter. At the Triconchus and Sigma, Theophilus constructed a fountain, the basin of which was set in silver. Below it was an eminence on which seats could be placed for his courtiers, and to which there led up a flight of steps of white marble from Proconnesus. The fountain was supported by two slender columns, on which stood two bronze lions from whose mouths water flowed, for the purpose of diffusing coolness over the open ground in front of the Sigma.

Wren's Construction.

Wren's towers and spires were built "in the most substantial and workmanlike manner," and to adapt the words of modern specifications still further, "the materials used were the best of their respective kinds;" but here ends the similitude. Wren put a different construction on these words from that often given in the present day; with him none of the funds which should be expended in stability were wasted in decoration—a fault which is perhaps mainly attributable to the present defective state of competitions, with which Wren was not troubled. The walls of the towers vary from 5 feet to 7 feet in thickness, and are of solid masonry, sometimes backed up with brick, but generally with stone of a rougher description. The stone is Portland, the timber oak, and the lead must have weighed at least 10 pounds to the foot superficial. The floors in nearly all the towers are carried upon corbels, a preferable mode to inserting the ends of the beams in the walls, as the floors are more readily replaced when decayed, and the walls are not so liable to be injured by fire or strains. The towers have in nearly every instance convenient access to the belfry or parapet by circular stone staircases; and it is worthy of notice that the front line of the steps runs to the centre and not to the face of the newel, as is usual in Gothic staircases; this perhaps occasions a little more work, but gives a much better tread. The block cornices and enriched parapets, which are so frequently imitated in the more modern parts of the Metropolis, were first used by Wren.

The Stones of Stonehenge.

It is obvious from their textures that the majority of the stones were brought either from Chilmark, where stones of a similar quality are quarried as large as sixty feet long, or from the Marlborough Downs, in the vicinity of Abury. Each of these places furnish stone of precisely the same quality with those of Stonehenge, and are not distant more than twenty miles from it. All the great pillars, as those forming the outward circle, the five pair innermost, and the great stone, with the five lateral ones near the ditch, are of a pure, fine-grained, compact sandstone, which makes no effervescence with acids. As far as the lichens, which cover the pillars, will permit one to judge, some are of a yellowish colour, others white. Ths second row of pillars, and the six which are innermost of all, are of a kind of fine-grained Grünstein, where the black hornblende is the only constituent which has a crystalline form or spatous appearance: this, in some pillars, is but sparingly scattered in the principal mass; in others, it forms a principal part. The mass, or ground, has a finely speckled green and white appearance, an uneven fracture, makes a slight effervescence with acids, and may be scratched with a knife: this stone strikes fire, difficultly, with steel. But in this second row there are two pillars of a quite different nature; that on the right hand is a true and well-characterised blackish silicious schistus, the Kiezel schiefter of Werner; that on the left is argillaceous schistus. The great slab, or altar, is a kind of grey cos, a very fine-grained calcareous sandstone; it makes a brisk effervescence in nitrous acid, but dissolves not in it, strikes fire with steel, and contains some minute spangles of silver mica.

GENERAL.

Mr. Theophilus G. Pinches, LL.D., has been invited to join the staff in the capacity of Assyriologist of the Liverpool Institute of Archæology, founded for the purposes of teaching study and research in association with the work of the University.

The Exhibition of the works of students submitted in the National Competition of Schools of Art will be opened next week in the galleries of the Indian section of the Victoria and Albert Museum. The exhibition will remain open until August 31.

The Paper on "Architecture and its Place in a Liberal Education," by Mr. Banister F. Fletcher, which was read before the University Extension Guild, has been published in pamphlet form by Mr. B. T. Batsford.

Messrs. Wright & Polk, architects, have formed an associateship with Mr. L. C. Mullgardt, and the firm will in future be known as Wright & Polk & L. C. Mullgardt, associate architects. The offices of the firm will remain as heretofore at 124 Sansome Street, New York. Mr. Mullgardt has had charge of the structural design and directed the erection of the new Savoy Hotel extensions in the Strand, London.

Messrs. Rüntz & Ford have prepared plans for a new theatre which is to be erected on the site of the tennis-court in Holland Road, Hove.

Mr. G. A. Hart has been appointed sanitary engineer at Leeds, at a salary of 1,000*l.* per annum.

Sir Alexander Binnie is to be invited to examine and report upon the main drainage tanks at the Pigeon House, and the sewers from the tanks to Burgh Quay, Dublin, which, it is alleged, are leaking.

Mr. J. C. Prestwich, of Leigh, has been successful in the competition for an elementary school in that town to accommodate 900 children. The estimated cost is 9,000*l.* The second place was assigned to the design of Mr. Thornley, of Wigan and Darwen, and the third to one by Messrs. Potts, Son & Hennings, of Manchester and Bolton.

The Dr. Warre school testimonial fund committee have appointed a committee of taste to advise as to the selection of an artist to paint Dr. Warre's portrait. There were present:—Lord Harris (in the chair), Earl Cadogan, Viscount Cobham, the Hon. W. F. D. Smith, M.P., and Messrs. A. C. Ainger, Waldorf Astor, R. C. Norman and G. W. E. Loder, and Mr. H. W. Hoare and the Hon. Arthur Brodrick, hon. secretaries.

The Royal Dublin Society's Taylor Art Scholarship of 50*l.* and four prizes amounting in value to 60*l.* are offered for competition in the month of March 1906. The competition is open to all students of art not exceeding twenty-five years of age who shall have attended for twelve months at least a school of art in Ireland, or who, being of Irish birth, shall have attended for the like period a school of art in Great Britain or elsewhere. Further particulars can be obtained by application to the Registrar, at Leinster House, Dublin.

The General Purposes Committee of the Birmingham City Council have had under consideration for some time past the extension of the Council House and the erection of an art gallery. It was expected that they would present a report this week. The details of the scheme have not yet, however, been completed, and the matter, therefore, will be held over until October. It is probable the estimated cost of the work undertaken will be about a quarter of a million pounds.

The University of Liverpool announce the following results in the last examination in the School of Architecture:—Second Class Degree of B.A. with Honours—H. H. Hill. Recommended for an Ordinary Degree—H. Thornton, F. Thorp. Certificate in Architecture.—First class, A. Berrington, H. G. Taylor; second class, C. H. Brooks, D. Whittaker; third class, M. N. Lim, T. M. Swales.

In Connection with the memorial to the late Mr. Robert Brough, the painter, the joint-committee (London and Aberdeen) report that the total subscriptions to the fund amounted to 1,015*l.* 9*s.* The committee acquired and placed in the Art Gallery, Aberdeen, where Mr. Brough received the earlier part of his art education, the portrait bust of him by Mr. Derwent Wood, and founded an art scholarship in Aberdeen to be called the "Robert Brough Memorial Scholarship." The amount available after paying for the bust and the necessary expenses in connection with the memorial and the founding of the trust was 885*l.* 7*s.* 3*d.*, and this sum has been vested under a deed in trustees. The scholarship is to be awarded to any male student of painting or sculpture not over twenty-five years of age, a native of Aberdeen or the North of Scotland, and who has received his art education in Aberdeen.

Sir Edward Maunde Thompson (director and principal librarian of the British Museum) has had the honour of submitting to the King the plans for the British Museum extension.

The Heritors of Dunfermline, H.M. Board of Works, and the Abbey Kirk Session are agreed to take steps—after the present renovations of the Dunfermline Abbey are completed—with a view to having more thorough care exercised with regard to the cleaning and keeping of the building, and preserving order on the part of visitors. It is proposed to make a small charge for admittance, and to have one responsible caretaker for both the old and the new portions of the church, who will have one or two assistants under him.

Iveagh House, Dublin, a building which is to serve the same purposes as the Rowton Houses in London, was opened on Wednesday. It was erected at the cost of Lord Iveagh, from designs by Messrs. Joseph & Smithem. Advice was given by Mr. H. B. Measures.

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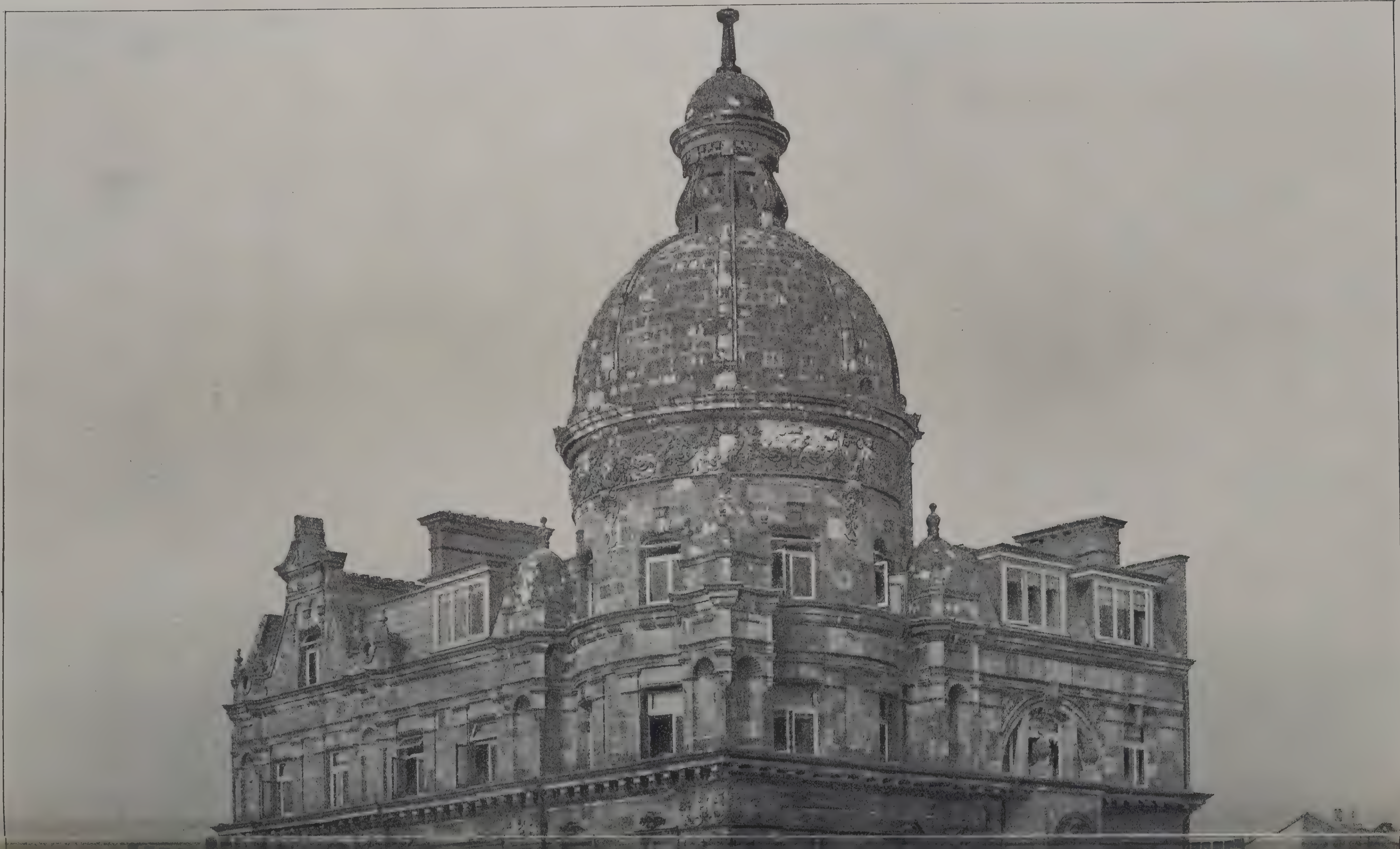

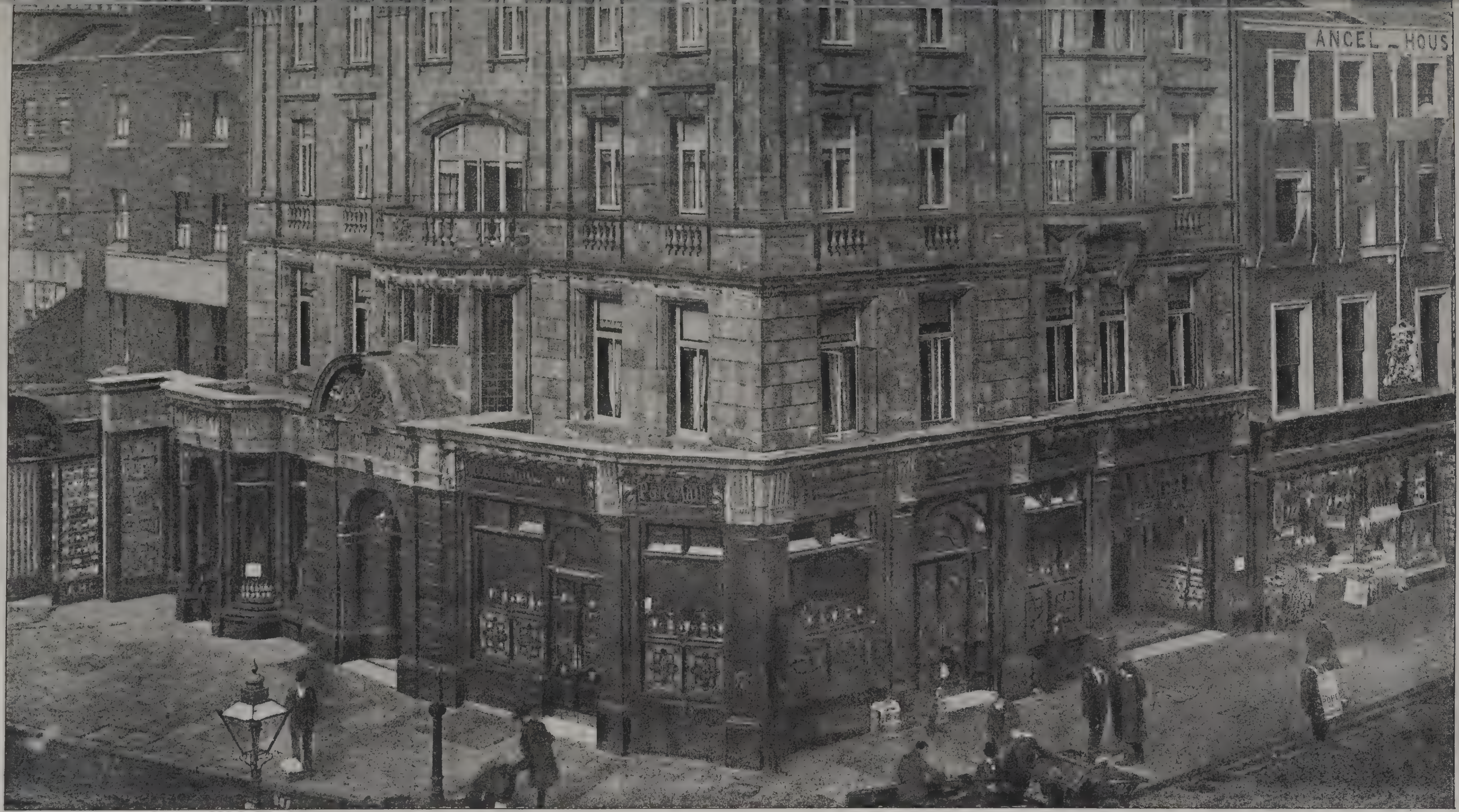

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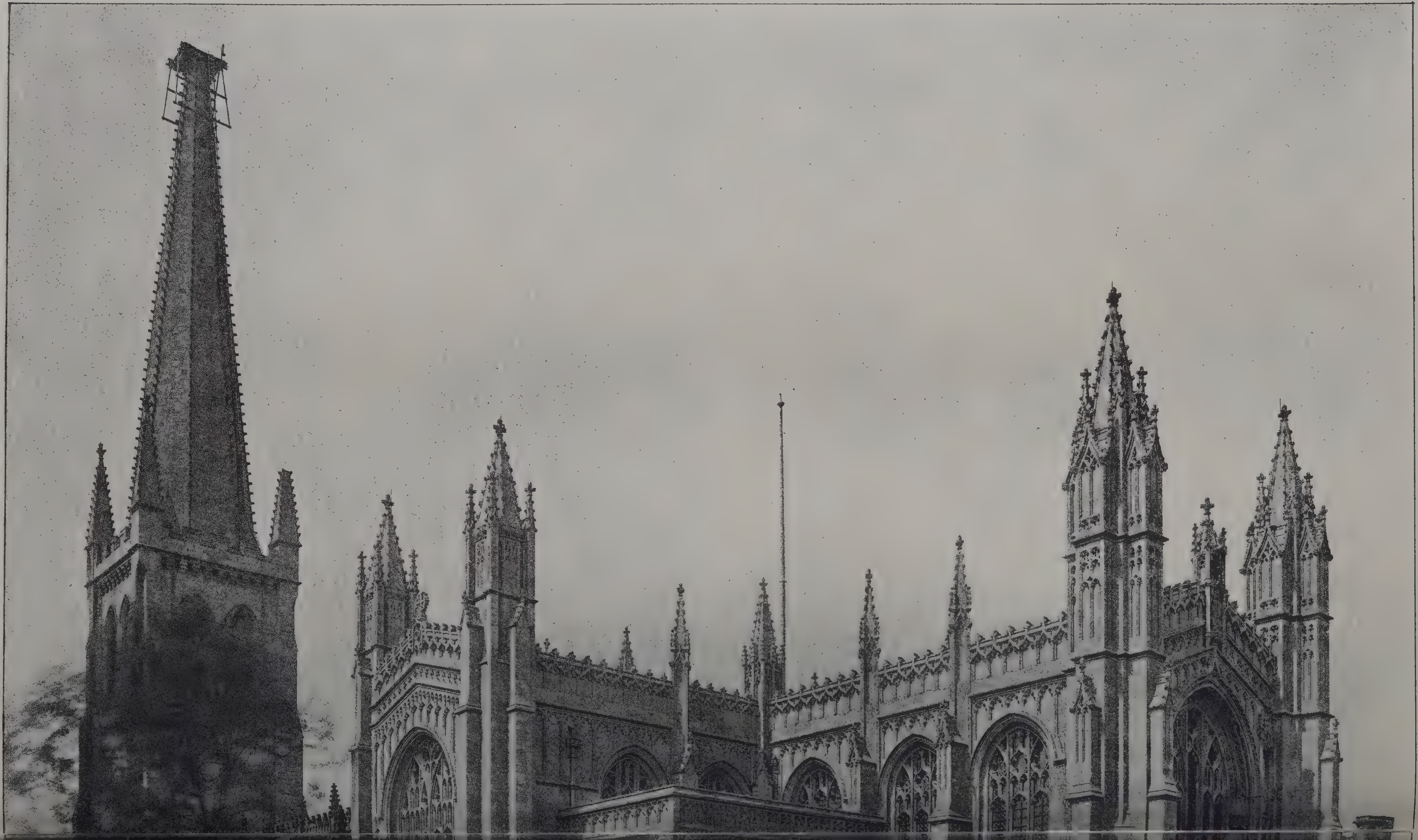

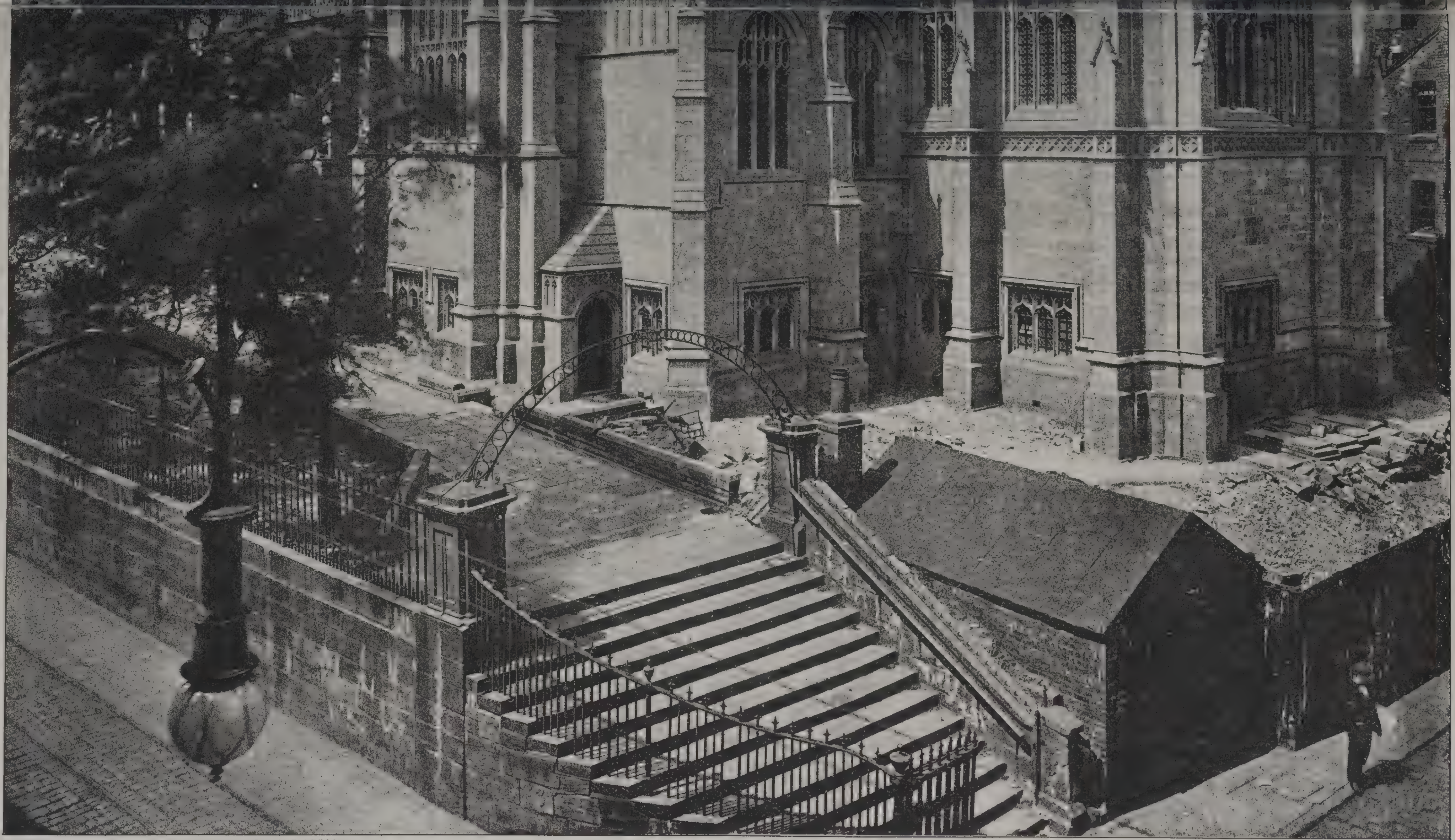

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CATHEDRAL SERIES, No. 530.—WAKEFIELD: RECENT EXTENSION AT EAST END.

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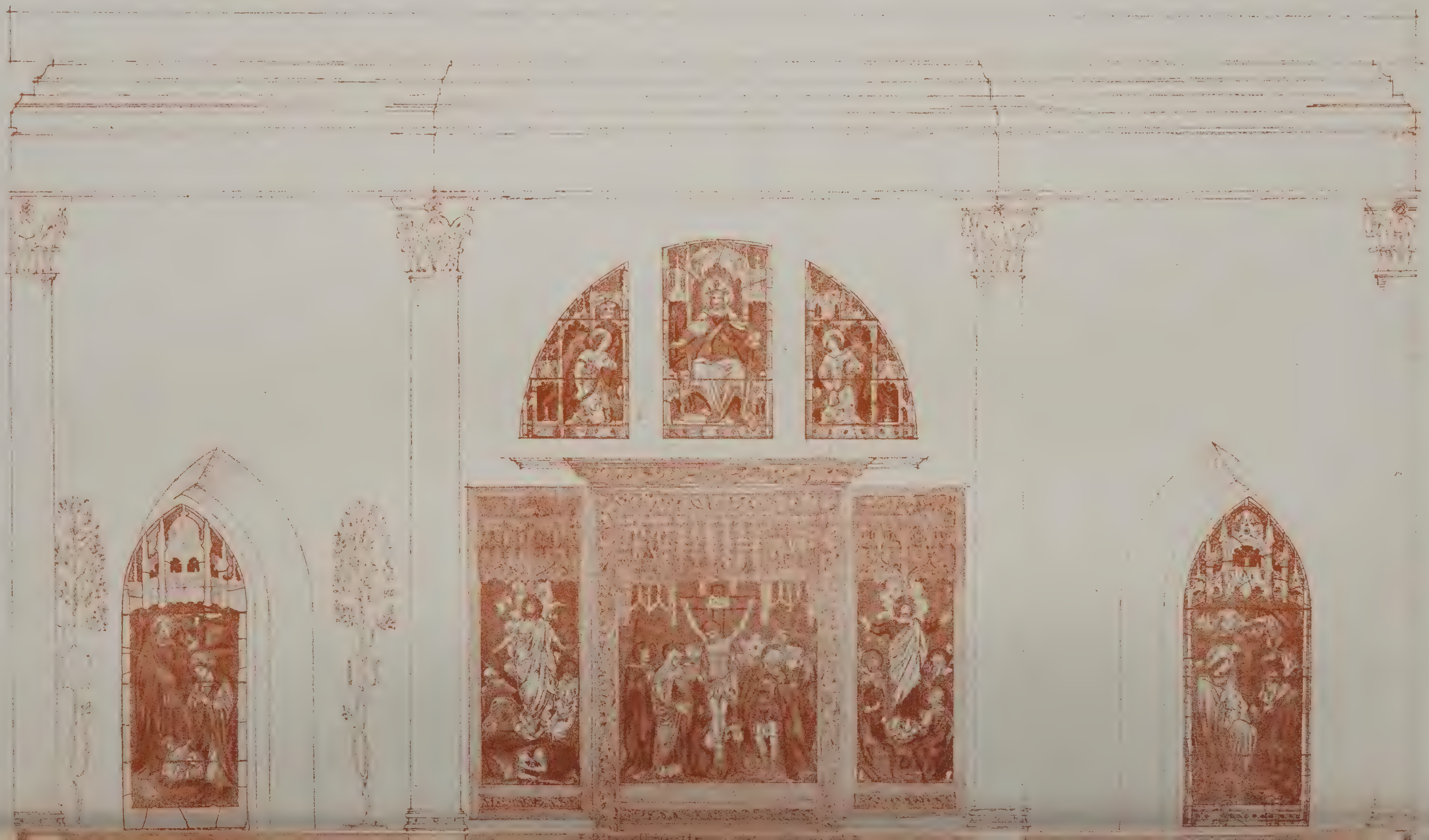

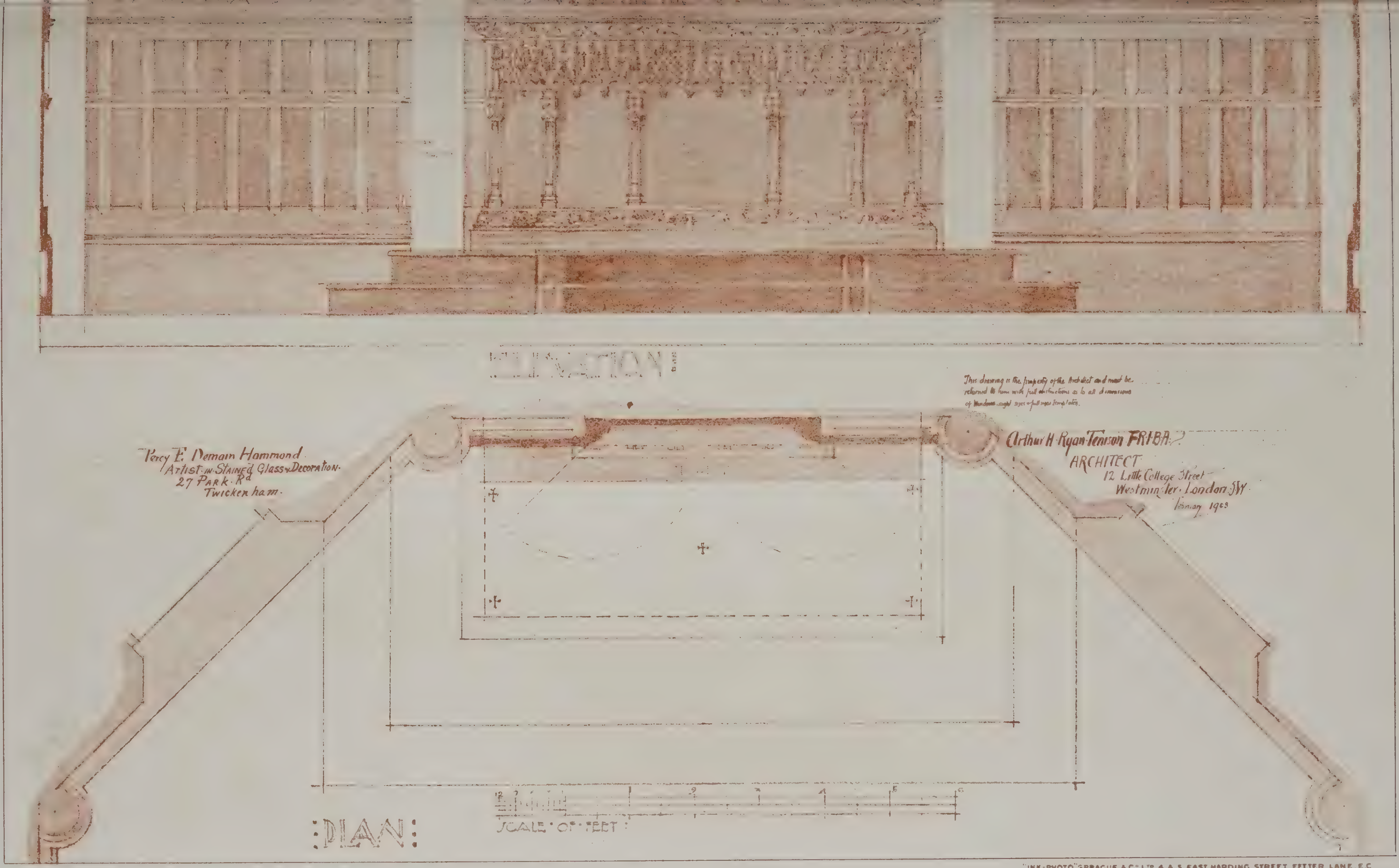
ELEVATION:
This drawing is the property of the Architect and must be returned to him with full instructions as to all dimensions of Windows, sight sizes & full size templates.
Arthur H. Ryan-Tenison FRIBA.
ARCHITECT
12 Little College Street
Westminster, London SW
February 1909
Percy E. Demain Hammond
Artist in Stained Glass & Decoration.
27 Park Rd
Twickenham.
:PLAN:
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SCALE OF FEET

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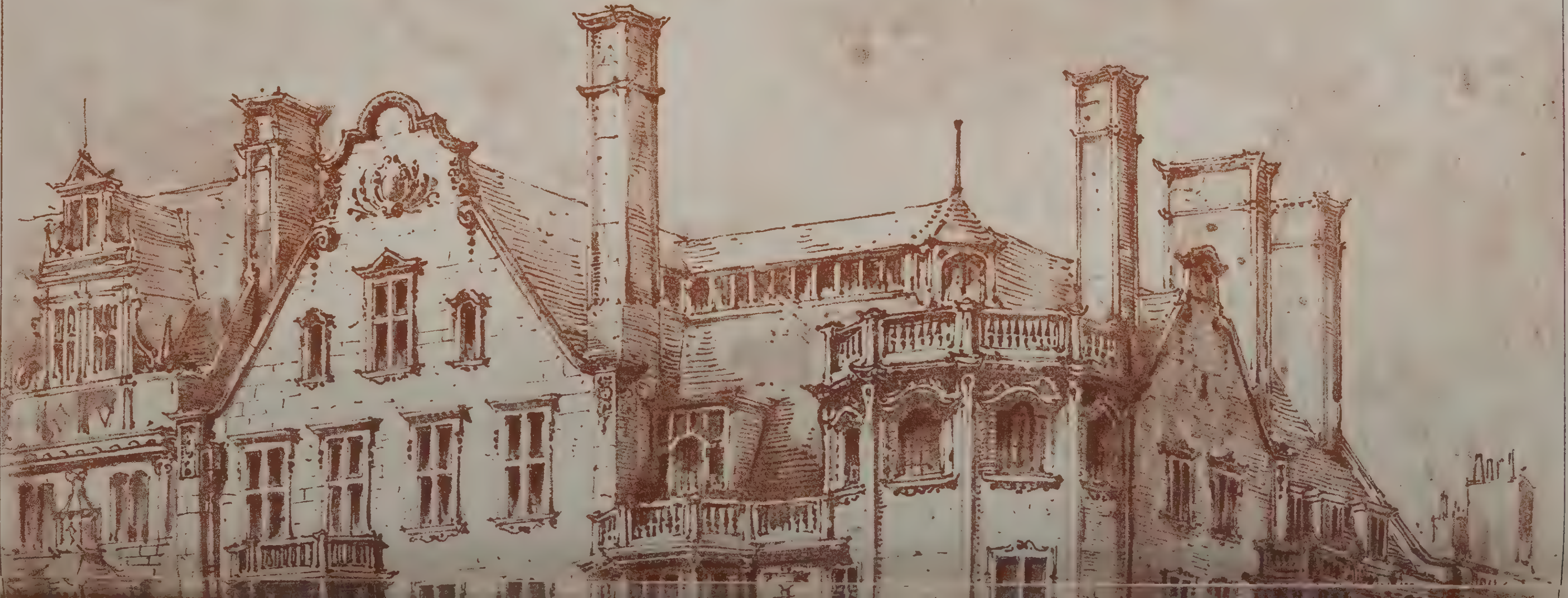

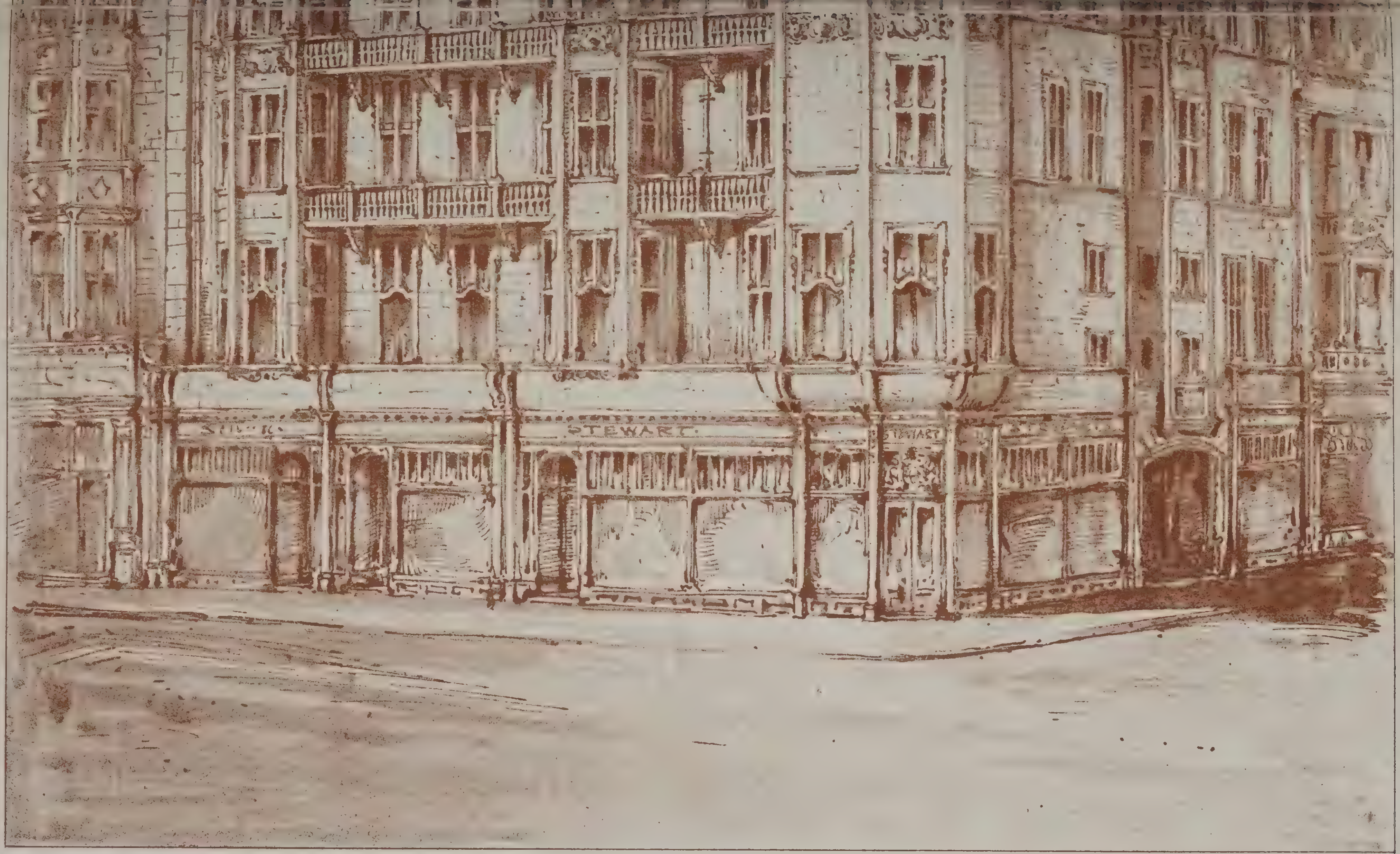

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The Architect.

THE WEEK.

Among the tenders published this week are those for main drainage works for the London County Council. The lowest, amounting to 391,503*l.*, was sent by William Moss & Sons, Ltd., of Loughborough. Although nearly 46,000*l.* under the next tender, it had to be passed over. In such a case it is usually supposed there are grave reasons for the non-acceptance of the lowest tender. The explanation happens to be of an unusual kind, and has been given in a letter from Messrs. Moss to the engineer. They say:—"We have been considering the question of financing the above contract should our tender be accepted. The local bank manager gave us the impression that there would be no difficulty in this, but now his superiors at headquarters cannot see their way to accommodate us. We have power, under our memorandum and articles of association, to increase our capital, but it would take some time to put this in operation to the best advantage, therefore we think it best to ask to be allowed to (1) withdraw our tender, or (2) ask you not to further consider the same with a possible view of accepting. We regret to have to do this, but at the time of tendering we felt sure that the bank would stand by us until we could make arrangements for increasing our capital." The County Council considered the explanation satisfactory, and allowed the tender to be withdrawn. Besides, the Council accepted the tender of Messrs. Moss & Sons for the relief sewer from Hackney Wick to Abbey Mills. At the present time money is not of much value, but some bankers appear to be more cautious in advancing it to contractors than to the majority of trades. In this case there was a large amount of money to be expended and the security was the rates of the Metropolis. What more could be desired?

From a case which was tried before Mr. Justice Phillimore at the Chester Assizes it would appear as if the reservation of a final certificate does not save an architect from liability for imperfect work. The plaintiff was Mrs. Barnato, and she sought to recover 790*l.* from Messrs. Chadwick & Booth, architects in Manchester, for alleged negligence in connection with a boundary wall. The architects denied negligence, and counterclaimed for fees. The land was bought in order to erect a residence upon it. Mr. Booth, the partner with whom Mrs. Barnato transacted most of the business connected with the work, fainted while giving evidence, and it was decided to avoid hearing him again. Mr. Chadwick said the wall would stand for hundreds of years, but he did not consider it to be complete and declined to give a final certificate. It should have been cemented on top, and as that had not been done it had suffered from the weather for the past thirteen months, and had been cruelly treated by people who had been examining it. The jury came to the conclusion that there had been negligence, and as the wall was worthless it would have to come down. They awarded the plaintiff 200*l.*, and on the counterclaim they awarded defendants 80*l.* commission for preparing plans for the house and 3*l.* 3*s.* for photographs. No commission was allowed for the building of the wall. The case is a hard one; but juries now expect that superintendence by an architect is to be continuous, and that the architect rather than the contractor becomes responsible for defects.

An investigation was lately made by an official committee in New York into the causes of several failures in new buildings. It was popularly supposed that the coming of the first mild day in spring was sufficient to overthrow buildings which had been erected while there was freezing. They found that one of the causes was the defective construction of foundation walls. The building code which all are supposed to observe was disregarded, for the walls were full of voids, built of small and unsuitable stones, improperly bonded and bedded. Plans were submitted to the Bureau of Buildings and corrections were marked on them, but no attention was given to the official orders. The committee submit the following recommendations:—1. Architects should be required by law to supervise the construction of buildings for which they furnish plans. 2. A person before being allowed to practise as an architect should hold a diploma from some institution of learning or from a recognised board to be created hereafter. The personnel of this board and the methods of its operation should be left to a commission composed of representatives of the various architectural associations and members prominent in that profession. 3. A register of those authorised to practise architecture should be kept by the Bureau of Buildings, and permits for the erection or alteration of buildings should be issued by the superintendent of buildings only to those so registered. 4. All contractors for masonwork or structural steelwork should be licensed. The co-operation of the recognised organisations in these trades should be sought in the establishment of such board or bureau. 5. It shall be unlawful to permit the building of masonwork or the erection of structural ironwork by persons not so licensed. In other words, the committee look upon the Bureau of Buildings as a failure, and they advise the authorities to trust to architects who are competent and contractors who are capable.

Objections may be raised to the fiscal system of the Germans, but the British Consul-General has to acknowledge that Germany has become a rich country. The aspects of towns, he says, have entirely changed. Extended suburban districts with solidly-built villas are stretching far into the country, and narrow streets and ancient buildings in the old parts of the towns are being replaced by broad thoroughfares lined by magnificent buildings often adapted to the historical spirit of their surroundings. All over Germany there are to be found superb railway stations and post-offices, spacious schools, libraries, public baths, theatres and hotels. Another proof, though of a different kind, of the increasing wealth in Germany is to be found in the numerous strikes of local importance only. The workmen and artisans are taking up a more independent attitude; they are becoming more pretentious, and they wish to share some of the luxuries which surround them; many stand out for tariffs which mean an increase of their wages. This undoubtedly has an immediate influence upon the cost of manufacture in Germany, and eventually upon German competition abroad, though to some extent the increased prices of labour are balanced by a larger share of work done by modern machinery.

The latest addition to the Académie des Beaux-Arts is M. René de Saint-Marceau, the sculptor. Although he received a medal of honour in 1879 for his "Génie gardant le secret de la tombe," what made him popular was his bronze figure *Arlequin*, which was exactly the kind of work to captivate the crowd. The number of his works is not great, for he is under no necessity to produce figures with expedition. He is able to elaborate his own thoughts, and the wonderful relief of *Our Destinies* must have been intended for his own delight, for he could not have expected that the public would appreciate a composition which at a distance is suggestive only of clouds. M. de Saint-Marceau was one of the early supporters of the rival Salon, which already can count no less than four members in the Académie des Beaux-Arts. The sculptor will, we hope, be able to resist the debilitating influences to which so many Academicians succumb, as if their artistic career ended with their election.

THE BRITISH MUSEUM.

A PLEASING contrast always awaits the pedestrian who from the crowded Oxford Street, the "stony-hearted stepmother," turns into the British Museum. There is no rushing in the galleries, and those devoted to Egypt, Assyria, Greece and Rome offer repose of a kind which it is difficult to find elsewhere. The annual "Return" to a small extent is also quieting. Instead of wars, meetings of emperors, political conflicts and other incidents of our tumultuous life we can learn about old books, old manuscripts, old sculpture, old fossil remains, which belong to a more remote past. The "Return" can also be considered as a chronicle of victories. So many countries are eager to enrich their museums it has become a struggle to acquire a fragment of ancient work. The keepers of the departments are silent about their own efforts to discover and secure additions, but we know that in many instances they must have failed if they were deficient in diplomatic skill.

Although we have many rivals in the East, the Trustees retain a hold on Nineveh, from whence Layard was able to enrich the Museum some sixty years ago. It is stated that the excavations which were resumed in 1903 on the site of the ancient Nineveh have been carried on through 1904, and have resulted in the discovery of the remains of a palace earlier than those of Sennacherib and Ashur-bani-pal, and also of the temple of the war-god Nebo. But the hope which was entertained of finding the library of the Assyrian kings, or some portion of it, has not been realised. The collection of tablets has been increased. The conclusion is drawn that some of those relating to accounts of the temple of Shirparla were only of a temporary character, and that they were useless, except for purposes of reference, as soon as the facts on them had been incorporated in the large tablets from 12 to 18 inches square. One important foundation tablet is a record of Tukulti-Ninib I., who was king of Assyria about B.C. 1275. After enumerating his victories it describes the building of the temples of the gods and the erection of a palace in his capital, which he surrounded with a strong wall; the city was supplied with water from the Tigris by means of a canal which the king dug. The text concludes with an invocation to Tukulti-Ninib's successors to keep the city wall in repair, and with a series of curses on the man who shall neglect or destroy the city, or shall carry away the tablet or obliterate the king's name from it. This inscription proves that Tukulti-Ninib I., king of Assyria, and Bibeashu, king of Babylon, were contemporaneous monarchs, and thus establishes a new synchronism in Assyrian and Babylonian history. A cast was obtained of the basalt stele containing the text of the code drawn up by King Khammurabi about B.C. 2200, at the dictation of the sun-god Shamash.

The most important acquisition of Egyptian work is the mastaba tomb of Ur-ări-en-Ptaḥ, a high official who flourished in the reign of Pepi II., king of Egypt about B.C. 3200. The following is the official description of it:—

> This tomb stood at Sākkara, and was regarded by authorities as a fine specimen of the sepulchral work of the period to which it belonged. The sculptured and painted slabs of which it consisted were carefully taken down under the direction of E. Brugsch Bey, assistant director of the Egyptian Museum at Cairo, and they have been rebuilt, in the Assyrian Saloon, according to the numbering which he furnished. In its reconstructed state it will form a very instructive example of the small mastaba tombs of the early empire, and its painted bas-reliefs admirably illustrate the manner in which such buildings were decorated. The inscriptions on the façade and walls show that the official Ur-âri-en-Ptaḥ was a "royal kinsman," and that he performed the functions of a libationer and priest of Hathor; he was the overseer of the royal scribes, and was "over the mysteries," *i.e.* he was a councillor of important rank. On each side of the door is a figure of the deceased in low relief, and the sides of the short doorway are ornamented with several half obliterated scenes in low relief. On the walls of the tomb chamber proper are depicted scenes connected with river transport, farming operations and cattle rearing, religious festivals and sacrifices, &c. The larger of the two false doors in the south wall is inscribed with an interesting list of offerings, and on the sides of it are the names and titles of the deceased, and prayers that sepulchral offerings may be supplied at the proper seasons of festival. The designs and colouring are good, and they are thoroughly typical of the artistic work of the second half of the period of the sixth dynasty.

We must not expect unknown examples to be added to the Greek and Roman department, for those which are found in Greece and Italy are immediately appropriated by the Governments. With the aid of subscriptions from the National Art Collections Fund, Mrs. C. H. T. Hawkins and an anonymous donor, the Trustees have obtained a Greek bronze of the early part of the fourth century B.C., which was found at Paramythia in 1792. Flaxman restored it in places. It is a relief, and is supposed to represent Venus and Anchises on Mount Ida. A group representing a helmeted warrior on horseback is described as fine archaic work of the sixth century B.C. A figure of a man with outstretched arms is supposed to be an early example of Græco-Celtiberian art. Mrs. C. H. T. Hawkins has presented a bronze statuette of Hermes, in fine condition, of the early part of the fourth century B.C., and two pieces of Greek armour. The sculptures and reliefs found by Dr. A. J. Evans at Knossos in Crete are in the museum at Candia, but he has presented casts of them, coloured in imitation of the originals, which are in *gesso duro*.

Among the Greek coins added to the collection are twelve beautiful silver diobols of the city of Aenus in Thrace, dating from the latter half of the fifth century B.C., nearly all of them unpublished varieties. One of two archaic coins from Scione in Chalcidice has on the reverse a large eye, which is probably to be explained as the conspicuous eye which was painted on the prows of war-galleys. The eye as a coin-type may therefore be accepted as equivalent to the representation of a war-galley. On the other specimen the reverse type is a bunch of grapes, symbolical of the cult of Dionysos. In the later Roman and Byzantine series the acquisitions have been exceptionally numerous and important, many hundred of coins having been added to the collection in gold, silver and bronze.

The past year has been remarkable for gifts to the Department of Prints and Drawings. No less than 5,012 have been acquired. One of the additions is the bird's-eye view of London, engraved in 1656, of which the only other impression known is in the Bibliothèque Nationale, Paris. Mr. Lewis Méryon has presented a collection of 146 pencil sketches and studies by Charles Méryon, made in New Zealand and other countries while he was serving in the French navy, together with a few of his etchings, photographic portraits of himself and his father. Mr. Lewis Méryon has also presented correspondence and papers of or relating to the artist. There are seven volumes of Méryon's etchings in the Museum.

The Museum possessed an immense number of drawings of buildings by the Buckler family. They have been supplemented by more drawings in pencil and water-colours of ecclesiastical and domestic architecture in England by John Buckler, J. Chessell Buckler (his son) and Charles Alban Buckler (his grandson), 1757-1874, together with pencil drawings of castles and bastions, chiefly in England and Wales, by the last-named, 1857-94.

One of the most important announcements is that a firman was obtained to reopen excavations on the site of the Temple of Artemis at Ephesus. Work was commenced last autumn under the direction of Mr. D. G. Hogarth, who during the season cleared a large part of the platform of the earlier temple and explored the foundations, whereby the remains of a still more ancient structure have been brought to light. A certain number of fragments of sculpture, which supplement those already in the Museum, have been recovered and, with the consent of the Turkish Government, will be shipped to England. The excavations will be prosecuted during a second season in 1905.

It is satisfactory to find that the collections are becoming more appreciated. Last year there were 954,551 visitors, or nearly 34,000 over those of the preceding year. The average number of readers was 742 daily, and they were supplied with 1,590,759 volumes, exclusive of those to which there is access in the reading-room.

THE LIMITS OF TRADE COMPETITION.

By W. S. Holdsworth, D.C.L.

To the non-lawyer the uncertainty of the law is proverbial, and the uncertainty of the law upon this question affects all trades alike. But it is not all the fault of the law. Changed conditions of trade, whether we regard trade from the employers' or the workmen's point of view, have introduced a new order, and until old legal rules can be adapted to this new order, until the exact application of legal principles can be ascertained, either by the logic of the law courts or by the considerations of practical or political expediency which move the Legislature, there must be a period in which the law is uncertain both to lawyers and to non-lawyers. The latest pronouncement of the House of Lords upon this subject, as difficult and important as it is uncertain, is contained in the case of the South Wales Miners' Federation *v.* Glamorgan Coal Company. The facts of that case were as follows:—The Federation was registered as a trades union. It was formed to regulate the relations between employers and workmen, and to protect the interests of the latter. Wages were paid to the miners under a sliding-scale agreement, by virtue of which the wages rose and fell with the price of coal. In November 1900 the Council of the Federation, fearing that the price of coal was falling, ordered a "stop day." The order was obeyed, and over 100,000 men broke their contracts of service. In October and November 1901 the Council, with the approval of the men, ordered four "stop days," with the same results. The Coal Company therefore sued the Federation for damages for inducing the workmen to break their contracts of service. Bigham, J., found, as a fact, that these "stop days" were ordered *bona fide* in the interests of the men, and with no wish to injure the masters. He therefore gave judgment for the Federation. This judgment was reversed by the Court of Appeal (Vaughan Williams, L.J., dissenting), and the House of Lords have upheld the judgment of the Court of Appeal.

The grounds of the decision of the House of Lords are quite clear. It is an unlawful act to break a contract. It is therefore equally an unlawful act to procure a breach of contract. It may be that mere advice without more ado would not be actionable; but as Lord Lindley said:—"The so-called advice was here much more than counsel; it was accompanied by orders to stop, which could not be disobeyed with impunity." It may be that circumstances can be imagined which would give one man the right to procure another to break a contract. A parent or guardian might be justified in procuring a breach of a contract made by his child or ward. But the mere fact that one man (A) considers that it is to the pecuniary interest of others (B, C or D) that B, C or D should break their contracts is no valid justification for procuring B, C or D to break their contracts. So in this case. The mere fact that the men had created a Council to watch over their interests gave that Council no right to procure illegal acts. This was very clearly explained by Lord Macnaghten:—"It was said that the Council—the executive of the Federation—had a duty cast upon them to protect the interests of the members of the union, and that they could not be made legally responsible for the consequences of their action, if they acted honestly in good faith or without any sinister or indirect motive. . . . It seems to me that the argument may be disposed of by two simple questions—How was the duty created? What in fact was the alleged duty? The alleged duty was created by the members of the union themselves, who elected or appointed the officials of the union to guide and direct their action; and then it was contended that the body to whom the members of the union have thus committed their individual freedom are not responsible for what they do if they act according to their honest judgment in furtherance of what they consider to be the interest of their constituents. It seems to me that if that plea were admitted there would be an end of all responsibility. It would be idle to sue the workmen, the individual wrongdoers, even if it were practicable to do so. Their counsellors and protectors, the real authors of the mischief, would be safe from legal proceedings. The only other question is, What is the alleged duty set up by the Federation? It comes to this—it is the duty on all proper occasions, of which the Federation and their officials are to be the sole judges, to counsel and procure a breach of duty."

We consider this decision a very reasonable one. We do not think that the existence of a trade dispute should legalise acts otherwise illegal, and we cannot doubt that to break a contract and to procure others to break their contracts are illegal acts. The fact that it is a powerful body, whose order it is difficult to disobey, that gives the order, makes it all the more necessary that the law should be strictly enforced. As Lord Lindley says:—"An organised body of men working together can produce results very different from those which can be produced by an individual without assistance. The English law of conspiracy is based upon and is justified by this undeniable truth." We think that these principles should be as strictly applied to combinations of masters as to combinations of men. Any combination which interferes with the legal rights of another by unlawful acts should be made liable to compensate the person injured thereby; and we should be inclined to say that any combination which attempted to affect the conduct of another in any other way than by fair statement and argument, and by the production of legitimate proofs of such statements and arguments, should be *prima facie* held to be guilty of an unlawful act.

What, then, is the ground upon which the justice of this and similar decisions have been questioned? It is thought by many that the law, as it has been recently expounded by the House of Lords, unduly favours the masters. To understand this opinion we must consider the grounds upon which it is based. The leading case in which the question of a combination of masters came before the Courts was the case of The Mogul Steamship Company *v.* McGregor, Gow & Co. In that case certain shipowners, in order to secure the carrying trade to China, formed an Association which regulated the conditions under which its members conducted their trade. The Association allowed a rebate of 5 per cent. on the freights to merchants who shipped only with them. Their agents were bound not to act in the interest of competing shipowners. The plaintiffs, who were shipowners and not members of the Association, were damaged thereby, because they were obliged to carry at unremunerative rates. It was held by the Court of Appeal and the House of Lords that the plaintiffs had no cause of action, because the defendants had done no unlawful act. They had merely taken measures to extend their trade by lawful means.

From a strictly legal point of view the distinction between cases of the type of The Mogul Company *v.* McGregor, Gow & Co. and cases of the type of the South Wales Miners' Federation *v.* Glamorgan Coal

Company is fairly clear. In the former case the masters were simply combining to do what each master had individually a right to do, *i.e.* to carry on business at unremunerative rates with a view to attract custom. In the latter case the defendants were procuring a positively illegal act, *i.e.* the breach of a contract. But if we leave the strictly legal point of view and look at the question as one of public policy merely, it cannot be denied that analogies between the two lines of cases can be suggested. The result of such a combine as was declared to be not illegal in the Mogul case would be, if successful, to vest the trade in the members of the combine—to create, in other words, a monopoly. The result of declaring such acts as those which were called in question in the Glamorgan case to be legal would immensely add to the power of trades unions and would go a long way towards giving them the sole control over the supply of labour. The creation of a monopoly in labour injures the master and the public, just as the creation of a monopoly of the supply of goods or necessary services may injure the men, and certainly injures the public. It is true that the means employed to bring about these similar results are different. The means employed by the masters involve no direct breach of the law as it at present stands. The means employed by the men does involve a direct breach of the law. But, it is argued, we should regard the result rather than the immediate means. To only regard the immediate means is short-sighted if the ultimate results are similar. And it may be said that in former times it is quite possible that such a combine as that which came into question in the Mogul case would have been regarded as illegal because it was in restraint of trade. In the Mogul case, no doubt, the House of Lords were careful to explain that when the law calls a contract in restraint of trade illegal it only means that as between the parties to it it is void. It does not mean that the parties to it have committed an indictable offence or a civil wrong. But it is clear that even at the present day a contract in restraint of trade, though neither an indictable offence nor a civil wrong, is *prima facie* void, *i.e.* it is looked on with some disapproval by the law. The members of such a combine, therefore, though they are not committing any specifically unlawful act, are doing something of which the law does not approve. In the Glamorgan case those who persuaded a breach of contract were doing a specifically unlawful act. But, it is asked, is there such a large distinction between the two courses of conduct? Esher, M.R., in the Mogul case (dissenting from the majority in the Court of Appeal), and certain American cases cited in argument, are authorities to show that some consider that this question should be answered in the negative—that in both cases the conduct should be regarded as illegal.

On the other hand is some authority in favour of the contrary solution, which would regard such conduct as legal in both cases. As we have said, the combine in the Mogul case was adjudged to be legal. Bigham, J., and Vaughan Williams, L.J., were inclined to hold that the acts of the defendants in the Glamorgan case were legal because, just as in the Mogul case, the acts of the Federation were done *bona fide* in the interest of the men, with no design to injure anyone. But it must be apparent that there is much danger in this solution of the question. It is useless to sue the men individually for the breach of their contracts. Unless the author of the breach can be attacked the men can break their contracts with impunity. Moreover, it is clear that the trades unions would be able to engineer strikes with greater facility. No one can approve of giving greater facilities for the beginning of what is after all a state of war. But it is said, on the other side, that the Mogul case appears to give the masters a very free permission to combine, and that from such permission "trusts," and consequently monopolies, may arise. If such trusts can be proved to be injurious to the public, there can be no doubt that they should be repressed; and it is perhaps useful to remember that there is some ground for thinking that their power to become injurious increases in proportion to the extent to which there is a departure from the principles of free trade. We may cite in this connection some words of Bowen, L.J.'s, judgment in the Mogul case:—"If indeed it could be plainly proved that the mere formation of 'conferences,' 'trusts' or 'associations' such as these were always necessarily injurious to the public—a view which involves, perhaps, the disputable assumption that, in a country of free trade, and one which is not under the iron régime of statutory monopolies, such confederations can ever be really successful—and if the evil of them were not sufficiently dealt with by the common law rule, which held such agreements to be void as distinct from holding them to be criminal, there might be some reason for thinking that the common law ought to discover within its arsenal of sound common-sense principles some further remedy commensurate with the mischief. Neither of these assumptions are to my mind at all evident, nor is it the province of judges to mould and stretch the law of conspiracy in order to keep pace with the calculations of political economy. If peaceable and honest combinations of capital for purposes of trade competition are to be struck at, it must, I think, be by the legislature, for I do not see that they are under the ban of common law."

We cannot here go into the possible results of a change in fiscal policy. But we cannot really understand this important question unless we remember that it has its two sides. If the masters are to be allowed an unlimited freedom to continue to drive out competition, the workmen consider that they should have greater freedom allowed them to conduct their trade disputes. This is clear from the Trades Disputes Bill, upon which we commented last year (*The Architect*, June 17 and 24, 1904). As we then said, the provisions of that Bill would go far to put the trades unions above the law and to make them the tyrants of the workmen. We should much prefer to see the opposite solution—to see, that is, the law strengthened against all such combinations as obviously tend to produce a monopoly. Of course it is clear that as combinations of masters and men try to attain this end by different roads, the legislative provisions dealing with them would necessarily be different. The trades unions, it cannot be doubted, do a good work if the men are free to join or not to join them as they please. What must be guarded against in their case is coercion, intimidation and persuasion to break contracts. If this were done, the numbers of the men would prevent the trades unions from acting offensively. They could only keep up their numbers by the wisdom of their policy. On the other hand, the numbers of the masters are smaller. What must be guarded against in their case is the design to establish a monopoly by driving out all smaller traders through an unscrupulous use of a large capital. The average citizen does not wish to see the prices of commodities raised by the operations either of a combine of producers or of a trade union of workmen; and this seems to be the natural result of the unfettered activities of combines of all sorts. To prohibit the operations of combinations, the effect of which is to stifle free competition, should be the object of the law—whether that aim is sought to be attained by the sort of bribery which is involved in trading at clearly unremunerative rates to drive out competition, or by the persuasion or coercion to do unlawful acts, which is the only weapon of the trades union. If there is such a thing as unfair competition in international trade, it is clear that there may equally well be unfair competition in the modes in which individual traders or combines of traders or workmen conduct their business within the State. Legislation, if legislation there is to be, should proceed upon broad considerations applicable to both sides of this complicated question. It would be a fatal mistake if the aims and desires of masters and men came to be identified with one or other political party in the State. Legislation would then merely represent a selfish and temporary advantage gained by one or other party. It could never settle the question in a manner which would be permanent because it would be equitable.

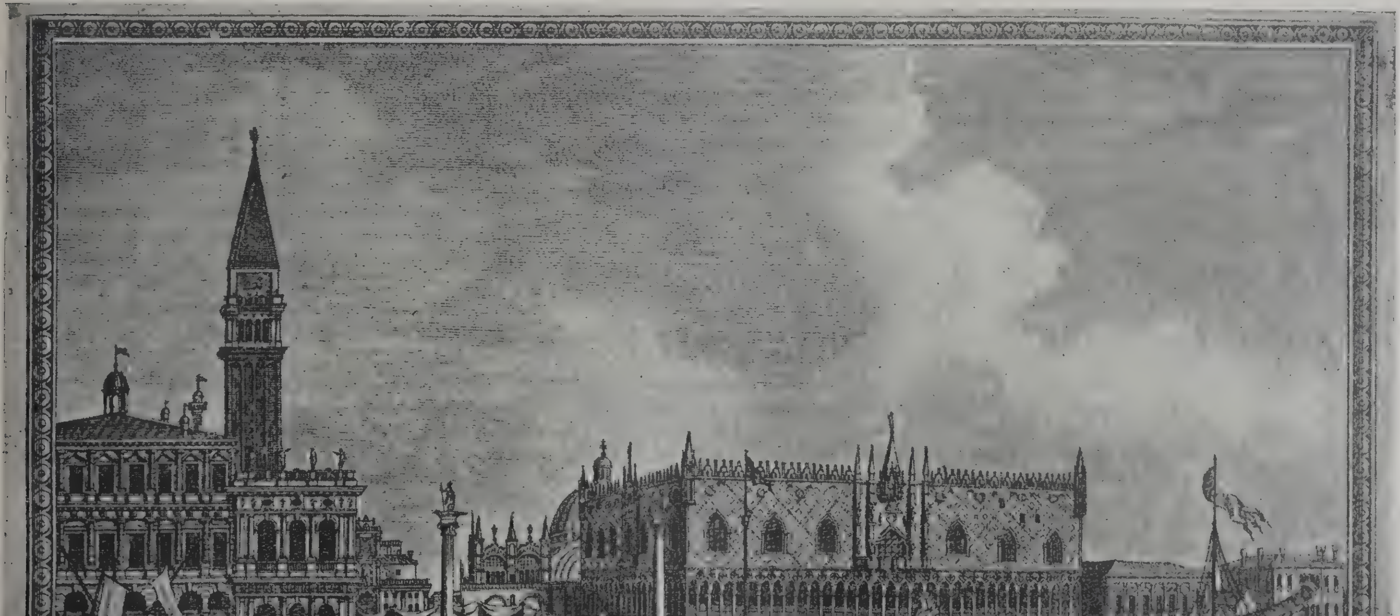
CANALETTO'S VIEWS OF VENICE.

It has been the good fortune of Antonio Canale to be identified with Venice in a way which is unique. Piranesi represented as many buildings, but his etchings are not accepted with the same confidence as those of Canaletto, and many thousands of travellers have lived in Rome without any thought of him. There are other cities in Italy which could have afforded subjects for paintings and drawings, but until photography arose they were unknown except to visitors, while Venice was made familiar to people who were never able to pass along the Grand Canal unless in their dreams.

In England Canaletto's works were more admired than in any other part of Europe outside Venice. If we believe Horace Walpole, his popularity in this country was in a measure owing to the shrewd British Consul Smyth, who was an adept at turning things to his own advantage. Goethe almost idolised the Englishman's memory, because he brought out an edition of Palladio's work which aided the poet in his self-improvement. Smyth recognised the peculiar skill of the painter, and "early engaged Canaletto to work for him for a long term of years at low rates, but retailed the pictures to travelling English at higher prices." The artist was so encouraged by the multitudes of pictures he had sold to or sent over to the English, he came to England about 1746. "He was then," says Walpole, "in good circumstances, and, it is said, came to invest his money in our stocks. I think he did not stay here above two years.'

Antonio Canale was the son of a scene-painter. He was born in 1697, studied with Carlevaris and assisted his father. He preferred independence, and, knowing the extent of his power, he devoted his earliest days of leisure to a study of buildings and ruins in Rome. With him was a nephew, Bernardo Bellotto, who was his apprentice, and so well could he imitate the elder's manner, it is now almost impossible to distinguish between their paintings. When he returned to Venice he appears to have been desirous to suggest that he was a designer of architecture rather than a faithful copyist of buildings. His views will not be found to correspond always with modern photographs. The interest of all Canaletto's views is increased by the figures, which were suggestive of Venetian life before the French Republicans crushed the older Republic. In the paintings it is believed Tiepolo introduced the principal figures. The excitement on the Canal, which is suggested by the etching we publish, must have been interesting to Englishmen in the eighteenth century, for Otway's "Venice Preserved" was then a stock piece, and there was in it a reference to the marriage of the Adriatic by the Doge with which playgoers were familiar. The Bucentaur became in consequence as interesting as a Lord Mayor's barge.

It is not necessary to say much about the buildings which are in the view. Architects from many lands have considered that the sight of the Ducal Palace, St. Mark's, the Library, the Mint, the columns, compensates for the longest journey. There is no longer a Campanile, and changes have been permitted, but the scene is still among the most beautiful for all who love architecture or history.



A View of St. Marks, & of the Bucentaur on ascention day when the Doge goes to marry ye Sea

USHER HALL, EDINBURGH.

THE Lord Provost's committee of the Edinburgh Town Council have resolved that a special meeting of the Town Council should be summoned for September 5, when the whole question of the Usher Hall would be considered. In the meantime they ordered that recent reports on the subject which have been before them should be printed and circulated among the councillors.

In a memorandum by the town clerk for the use of the members of committee of date July 10, it is pointed out "for the sake of clearness" that—irrespective of the particular proposals under consideration at the moment—three distinct policies had at one time or another been suggested, viz.:—(1) To utilise the site of the present buildings, and as much of the adjoining ground acquired for the purpose as may be necessary in erecting the new hall and subsidiary premises, according to the plans approved by the Council, and for this purpose to take down the present buildings to the foundations (which would be utilised), or at all events to the street level. This is the policy adopted by the Council when the special committee was appointed, and in accordance therewith the plans and estimates are submitted and the report by the special committee is made. (2) The present buildings may be left externally intact, and improvements and alterations made upon the interior with the view of adapting them for the city's purpose. (3) If the present hall is considered too small, it may be enlarged by an addition made at the rear of it; or, according to another suggestion, it might be left as it is, and a new hall built upon the ground in the rear adjoining Lothian Road extending from the Lyceum Theatre to Cambridge Street. This latter method would involve the acquisition of certain tenements next the theatre—which have not been acquired under the present scheme—and it would also require the purchase of the school buildings. No details of the alternative have been considered by the Council.

On the proposal as embodied in No. 1 paragraph, which is the scheme sanctioned for a new hall by the Town Council, the special committee have prepared a report. In it they discuss several points remitted to them for further information by the Council:—(1) As to the cost of the dome, the square tower and their relative bearing walls. This, the committee say, would amount to 6,187*l.*, but the cost of filling in the remaining space if the dome were removed, with the requisite flooring, gallery, roofing and finishings, would cost 1,979*l.*, thus leaving a net saving of 4,208*l.* (2) As to whether the plans could be amended so that the large hall shall receive sufficient daylight so as not to necessitate the use of electric light during morning or afternoon concerts. It is suggested that an improvement could be effected in the daylighting of the hall by filling in with glass the entire semicircle of lunettes in the cove. (3) Whether the gallery accommodation can be substantially increased, and if the upper gallery can be lowered or otherwise improved. The committee say that through the removal of the dome substructure the gallery accommodation, with that on the ground floor, would be increased by 308 seats, and that in the gallery might be so still further, if desired, by 142 in an extra row on the balcony all round—together 450. The upper gallery, it is said, could be considerably lowered by restricting the height of the foyer. (4) Information was also asked on the acoustic properties of the proposed new large hall, and power was given to take qualified expert opinion on the subject. On this last point the committee submitted the plans of the new hall to Sir Aston Webb, R.A., architect, London, and Dr. Frederic H. Cowen, Doctor of Music, for their opinion on the subject.

In his report, which is printed as an appendix, Sir Aston Webb preliminarily remarks that there is much uncertainty and diversity of opinion as to the best means of obtaining a satisfactory acoustic result, though as a rule certain points of similarity may be found in those buildings where a good result has been obtained. An important point, he says, is proportion, and though it is not possible to lay down dogmatically any rule for the length, width and height of a large hall which will always be successful, it has been shown that in those halls that are best for sound the three dimensions of height, length and width have some harmonic relation. Wren usually adopted a proportion of 2 of height to 3 of width and 5 of length, and his buildings were generally acoustically successful. Examples of halls are given. The proportions of the Edinburgh hall on the plan submitted to him, Sir Aston Webb goes on to say, are approximately 2 high, 2 wide and 7 long, the width being a condition laid down in order to make use of some existing foundations. This hall would, in his opinion, prove to be somewhat too long and too high for its width to produce a satisfactory result. He considered the proposal to dispense with the dome and carry the ceiling through at the same level a very desirable improvement, indeed, almost essential. The alteration at the orchestra end and its restricted height would also, he considers, be an improvement. He further is of opinion that it would be better to run the cove under the ceiling continuously its whole length, omitting the lunette windows and lighting the hall by a clerestory under the cove. On the other hand, he thinks that some pilasters on the walls and beams on the ceiling would be advisable to check undue vibrations of sound. Sir Aston Webb also points out that on this and an alternative plan submitted to him how large a portion of the audience on the ground-floor would be under galleries only 10 feet above the floor, indeed, he makes it that about one-half of the whole ground-floor space would be covered by galleries—an undesirable arrangement. In an alternative plan the hall is widened by taking in half the width of the corridor at the gallery level and increasing the width of the hall to 96 feet, the ceiling and roof remaining unaltered, which have therefore to be carried by columns rising in the galleries, which would form a considerable inconvenience and obstruction to the audience, and hardly promises a satisfactory result. Otherwise he considers the widening of the hall an alteration in the right direction. He does not, however, recommend the adoption of this plan as it stands. Sir Aston Webb next touches on the importance of the materials of its construction, and says that there seems no doubt that the large employment of wood for finishings in the interior is very desirable. He also gives hints as to ventilation. Sir Aston Webb gives the outline of a hall (unrestricted by the fixed width of 70 feet) by carrying the galleries over half the corridor at the gallery level, extending the main ceiling over them, and building both ends of the hall semicircular. This arrangement, though it would no doubt entail some alterations in the various staircases, exits and entrances, would not, as it appears to him, create any insuperable difficulties, nor should it greatly increase the cost apart from the new foundations for the two sides of the hall. This would give a well-proportioned hall, 63 feet high, 95 feet wide, with a mean length of 163 feet, thus very closely approximating to the proportions of 2, 3 and 5, producing a hall in which he believes, if carefully worked out, all would see and hear well.

Dr. Cowen also gives a report on the acoustics, and says:—The longer hall to be adopted and the outside galleries, as well as the pillars, to be abolished; (2) the windows to be brought down lower and to be flush with the walls; (3) the roof of the hall to be a flat cove, without any beams across, and he goes also into other minor details. He says in reply to a special inquiry that he considers that a hall with a seating capacity for 2,500 to 3,000, including the platform, would be quite sufficient, and as much as most halls in the kingdom in larger cities than Edinburgh are capable of holding.

The committee comment on Sir A. Webb's proposed hall, and say that there can be no doubt that the cost of it would be considerably more than that of the scheme which utilises the present foundations. They also refer to Dr. Cowen's remarks. The committee say that what the architects now suggest is to restrict the length in proportion to the width as fixed by the lines of the old walls, adjusting the height correspondingly, by which a satisfactory proportion would be arrived at, still providing the full maximum number of 3,500. By such an arrangement the mean length of the hall would be 175 feet, the width 70 feet and the height 56 feet. The seats are worked out:—Area, 1,697; balcony, 370; lower gallery, 280; back gallery, 600. The audience on orchestral and choral occasions would be 2,953; and in orchestra and chorus benches on other occasions 577—total, 3,530.

The cost is put down as follows:—Sum paid for acquisition of property of Synod Hall, 48,415*l.* 4*s.* 4*d.*; expenses of acquisition and arbitration, approximately, 3,934*l.* 15*s.* 8*d.* It is pointed out that the Synod Hall property is subject to a feu-duty of 120*l.* 5*s.* 3*d.* per annum, and the other properties adjoining to feu-duties of 71*l.* 10*s.* per annum. On the other hand, the rental of the properties acquired, which would not be required for the execution of the plans, and would be available for letting, may be stated at 472*l.* per annum. If these sums are capitalised, the feu-duties will be taken at a higher number of years' purchase than the rental.

The cost of building is thus stated:—The measurers report that according to the lowest tenders received from the contractors, and after giving effect to the proposals to dispense with the dome, and assuming that the alternative of the shorter hall is adopted as suggested, the contractors' estimates may be taken as amounting to 64,800*l.* To this sum may be added:—Electric lighting, 3,930*l.*; first painter work, 1,200*l.*; seating, 1,250*l.*; measurer, clerk of works, &c., 2,500*l.*; fire appliances and miscellaneous items, 1,500*l.*; additional for hardwood finishings, 3,090*l.*; total, 13,470*l.* With the site at 52,350*l.*, and the hall and furnishings (as above) at 78,270*l.*, the total is put down—exclusive of organ expenditure and for sculpture figure groups—at 130,620*l.* It is pointed out that this is well within the sum which on March 22, 1904, the Council agreed as a maximum for site and hall, of 145,000*l.*

The special committee make the following recommendations:—

1. That the dome and its supports should be dispensed with.

2. That the amended front elevation to Castle Terrace, in accordance generally with the design submitted to the Town Council on February 16, 1904, but without the side campanili, should be adopted.

3. That in consequence of the dome being dispensed with, the length of the hall should be shortened, as mentioned above, which would give a seatable area, including galleries, of 16,737 square feet. This would provide seating accommodation for 3,530 persons, as against 2,316 persons in the present Synod Hall.

4. That a row of seats should be taken away from the balcony and thus reduce the "overhang," diminishing the number of seats by eighty-eight—the accommodation then being 3,442.

5. That as regards light, the entire semicircle of the lunettes should be of glass, instead of the circle only, as shown on the working drawings.

As further appendices are printed a memorandum by the architects, Mr. R. Morham and Mr. J. A. Williamson on the reports of Sir Aston Webb and Dr. Cowen; a memorandum as to how far the existing buildings could be utilised in the new hall, which practically says that only the substructure could be so utilised, and a note on the proportions of concert halls at home and abroad.

The Lord Provost's committee had also before them in manuscript a report by the architects on a motion by Bailie Douglas as to enlarging the present hall by "additions to the rear and by appropriate internal alterations." The architects, it is understood, reported that this might be done, and get other 500 sittings, at a cost of 20,250*l.*, but that they did not approve of it.

AN ARCHITECT'S CLAIM.

At the Moot Hall, Newcastle, on the 20th inst., the case was resumed before the Official Referee (Mr. Edward Pollock) of Haswell *v.* Mulholland. It was a claim by Mr. F. R. N. Haswell, architect, of North Shields, for 274*l.* 3*s.* 5*d.* against Mr. John Mulholland, Station Hotel, Whitley Bay. The claim was made up of 270*l.* 13*s.* 5*d.* fees for work done, and 3*l.* 10*s.* expended by plaintiff as an architect. The defendant counterclaimed for 295*l.* for alleged inferior work passed by the architect, for 200*l.* for law costs incurred owing to right of light of a neighbour, and 35*l.* costs of defending an action brought by the builder.

The claim arose out of work in connection with premises owned by defendant at Whitley Bay, which in March 1901 had an off wine and spirit license, and for which defendant wanted a full license. To get this defendant consulted Mr. Haswell, who advised him to build something in the nature of an hotel. The project was proceeded with, and, after various sets of plans had been prepared by Mr. Haswell, defendant bought out Miss Cansick's (a neighbour) right of light and erected a four-storey building. The question of the right of light was a much debated part of the case, and plaintiff in his evidence averred that he knew nothing about the dates of Miss Cansick's building nor of her right to light. As to his charges, he said that at the first interview with defendant he stated that the leading point was 5 per cent. upon the outlay of the contract, but it was not true to say that he agreed to do all the work dealt with for 5 per cent.

Counsel discussed and settled various items in the particulars of claim, agreement on some matters in dispute having been come to. By this means the case was considerably shortened.

The Official Referee gave judgment. He said that he saw no justification whatever for charging Mr. Haswell with any negligence either with regard to carrying out the building or Miss Cansick's right of light or anything else. He thought that if the matter was going to be settled in the way in which it had been by its withdrawal, it was a charge that should not have been made. He could not see that there was any ground whatever for interfering with the ordinary course with regard to the costs on this occasion, and there must be judgment for the plaintiff in the sum of 244*l.* 6*s.* 6*d.*, with judgment for the plaintiff on the counterclaim and with costs on the claim and counterclaim.

KENSINGTON LIBRARY.

A NEW central library for the Royal Borough of Kensington is proposed to be built on the site of the old vestry hall in High Street. Since the town hall was erected several years ago these premises have been used as a public library, but for a very long time they have proved unequal to the needs of the parish, while any rearrangement of so inconvenient a building for the purpose in view could only result in an inadequate arrangement, the proportionate expense also being out of accord with the proportionate result. The library committee, acting upon a resolution passed by the Royal Borough Council last February, has employed Mr. Maurice B. Adams, F.R.I.B.A., and the committee's report has now been issued stating that, according to the plans which the architect, Mr. Adams, has prepared the accommodation will be trebled, the building standing on identically the same site, and the contemplated cost will be about 18,000*l.*, every available inch of the space being utilised. The librarian is to be provided with suitable quarters as well as the caretaker. It transpired at the last Council meeting that the existing residential accommodation has been condemned by the medical authority as insanitary. The present building was erected about fifty years ago, and, however well fitted for vestry meetings, makes but a poor library, much too restricted for the demands of the increasing work done within its walls, and very difficult and unsatisfactory to administer economically. The contemplated outlay is strictly in accordance with the resolution of the Council already referred to, and the increase on the halfpenny rate will be so little felt by the ratepayers that anyone paying on 50*l.* yearly will only contribute 6*d.* for the first year, an amount, moreover, which will annually diminish to a mere fraction.

DIVISION OF CHURCH PLANS.

IN most old churches a threefold division of the plan into nave, choir or chancel, and presbytery may be observed. In the mass of English parish churches the presbytery or extreme eastern portion, where the high altar was placed, is very slightly marked off from the chancel, while the latter is very strongly marked from the nave. But in larger churches this is sometimes reversed, as in Llandaff Cathedral, Westminster and St. Albans Abbeys; and even in parish churches some cases occur in which the chancel and presbytery are very clearly divided. These three parts, which may be traced up to the early basilicas (in which, again, the distinction was much stronger between the chancel and the presbytery than between the nave and the chancel), seem to have been considered essential; but the ground plans of large churches were often rendered much more complicated by the addition of aisles, transepts and subordinate chapels in all directions. The transepts especially seem often to have marked the distinction between the essential portions, according to the point at which they were added. In our Norman cathedrals and many other churches of the cross form, the choir or chancel was under the central tower, and the transepts are thrown out immediately on each side of it. Later the choir was generally placed east of the central tower, but sometimes west of it. That is, the transepts were sometimes thrown out between the nave and the choir, as in most cross churches; sometimes between the choir and the presbytery, as at Westminster, in very large churches not unfrequently at both points, as in Canterbury, Salisbury and several other cathedrals.

Mr. J. P. Phillips has presented to the Art Gallery in Birmingham a water-colour drawing by the late Samuel Palmer.

NOTES AND COMMENTS.

The first floor of that peculiar house in the Place Pigalle, Paris, which is occupied by artists, and known to other artists throughout Europe and America, used to be occupied by the ateliers of Puvis de Chavannes and Jean Jacques Henner. It is not long since the former passed away, and now the late tenant of the opposite studio has vanished. There was as much difference in the appearance of the two artists as in their work. Puvis de Chavannes was a courtly gentleman, who was so alert that he might be taken for a devoted *escrimeur*. Henner, on the contrary, was heavy in figure and generally slow in speech. He might be taken for a wealthy German brewer, who was perfectly at ease about his financial position. By birth he was an Alsatian, and was born at Bernweiler in 1829. He was able to see works of Holbein and Schongauer in his youth, and he took such delight in them that his father bought him pictures as if they were toys. He had a right to the Ecole des Beaux-Arts as a French subject. He studied with Drolling and Picot, but he was phlegmatic and very poor. It was not until he was twenty-nine that he won the Prix de Rome. His work was a *Death of Abel*. It is still preserved with care in the Ecole des Beaux-Arts, and it suggests the change which teaching had accomplished in him. It might have been supposed that he would have attained some of Holbein's definiteness. But in 1858, as at the close of his life, it was evident that he was compelled to paint in a manner of which Correggio would have approved. On his return from Rome he gained more medals than he cared for. He became a fashionable portraitist, and anyone who was a short time in his company would perceive that mentally he was making portraits of those about him. The class of work he most admired was however perplexing to the critic. To a great extent his principal figures might be described as imaginary portraits. One of his small heads in a gallery of the Salon, although surrounded by immense canvases, could be at once recognised. It might be merely the profile of a girl, but it had the beauty of a divinity on a Greek coin. It might be the figure of a martyr with rigid limbs, or a Naiad, or an emblematic figure, but whatever the subject it became more prominent than if it were a relief in marble. As a rule a single figure was enough for him. He had no desire to be considered as a master of composition. Unquestionably there was monotony in his works, and it would be interesting to see the effect of a collection of his paintings. He never attempted to flood the market with productions, and to the end he appeared to be an easy-going painter who preferred to think about pictures rather than to weary himself with their production.

It is proposed to erect an immense hotel on the site of one at the junction of the Leipziger and Potsdamerplatz, in Berlin, to which will be added the sites of some adjoining houses. It was decided by the company to obtain designs by competition among members of the Berlin Union of Architects. Several drawings were sent in. The majority endeavoured to avoid the mechanical accuracy of treatment which is to be seen in so many buildings in the city, and by the absence of symmetry to suggest a native style. The first prize has been obtained by Herren Vielenberg & Moser, of Berlin; the second by Herren Reimer & Korter; the third by Herr Emil Kopp; the fourth by Herr Emil Schlüter; and the fifth by Herr Kuhlmann.

According to the British Consul-General the pulling down of old streets and the building of new ones goes on at a great pace in Genoa. The enlargement of the principal railway station is nearing completion. Several schemes for further improvements have been under consideration. It is expected that the port of Genoa will be enlarged at a cost of about 2,000,000*l*. sterling. At present it is the largest port in Italy. No progress has been made in the competition for the best plans for the drainage of Spezia and suburbs, for which the municipality has offered a prize of 400*l*., open to international competition. It has been found that the local engineers' drawings cannot be ready till well into 1905; consequently it has been found necessary to postpone the final date on which schemes may be presented by intending competitors, due notice of which will be given by the Mayor to all those who have signified their intention to compete. At San Remo a new casino has been constructed on the site of the old public gardens. A new post office has also been erected.

Oels is a small town in Prussian Silesia with a population between 6,000 and 7,000. The castle, which was built in the sixteenth century, adjoins a church, the greater part of which has recently collapsed. On this site there was a church founded in 979 which has been altered from time to time; it was about 160 feet in length and consisted of a nave and two aisles; the style was mainly Early Gothic. From what cause is not known, the columns of the south aisle broke down as if under the weight upon them, and the greater part of the building came to the ground. It is expected that the whole of the building will have to be re-erected. The church was of some architectural importance, but as very few people visit so remote a district the building has not been noticed in modern works on architecture.

When the Pont du Carrousel, or, as it is more generally known, the Pont des Saints-Pères, was completed in 1834 under the direction of Polonceau, it was considered to be a marvellous example of engineering. It is a cast-iron bridge with circles in the spandrels, and when it was first opened a toll was levied on all passing over it. But after the Revolution of 1848 the bridge was acquired by the city. As it leads to the Place du Carrousel and the Rue de Rivoli from the left side of the river, the bridge is found to be inadequate to the traffic. It is now about to be enlarged at a cost of 10,000*l*. As economy prevails in Paris there is no provision for a temporary bridge, and the closing of the present structure will cause serious inconvenience.

The remarkable litigation between the Caledonian Railway Company and the Corporation of Glasgow has had the effect of creating a delay in the gratuitous widening of the streets. Only a great company could resist such a proposal. It has yet to be settled what will be the result to the immense number of citizens who have opposed the scheme. They could not all pay such expenses as the Caledonian Company will have to bear, but they have already suffered financially in making arrangements to defend their properties. As the Court would not allow costs to either side in the large case, we suppose the people whose property was in danger will have to be at the loss of what has been expended on law costs.

ILLUSTRATIONS.

ST. PAUL'S GIRLS' SCHOOL, BROOK GREEN—CENTRAL HALL.

A HOUSE AND FARM AT NORTHWOOD.

NORTH LONDON CREMATORIUM, FINCHLEY ROAD.

HOUSE, SIDBURY, BRIDGNORTH, SALOP.

THE CHEAP COTTAGES EXHIBITION.

THE Cheap Cottages Exhibition at Letchworth, which was opened on Tuesday by the Duke of Devonshire, is an almost necessary corollary of the garden city which it is proposed to establish in that place. The demands of housing reformers and those who agitate for "a return to the land" would only be inadequately answered if there were provided no more attractive homes than may be seen in the long unlovely streets of our large towns or colliery districts. The pretty country cottage which one instinctively associates with the rustic home owes its charm in great measure to the hand of time which softened the crudities originally existing. The local builder now puts up houses for the agricultural labourer, which, instead of charming, rather hurt the eye through their want of all relation with their surroundings. Many country villages undoubtedly show exceptions to this rule, but the occupants will be bound to be week-enders, and not workers in the field or village. Therefore the fact still remains that the present-day cottage is a thing which is more of an eyesore than an ornament. The reason which most readily occurs is that the local builder has to reduce his cost of building to the lowest possible extent, and that in so doing he can leave no margin for attaining picturesqueness unless at the expense of something else. But the cheap cottages exhibition shows that this is a fallacy, for while the cottages are more cheaply built, they are also more charmingly built. Of course, the *raison d'être* of the exhibition now to be seen in Letchworth is to demonstrate the practicability of erecting cottages for 150*l.* instead of the much larger sum of 250*l.*, which may be accepted as the average price, and for which a minimum rent of 10*l.* per annum must be charged if 4 per cent. on outlay is to be obtained.

The great and seemingly insurmountable stumbling-block lying in the path of all who desire to effect any improvement on the accepted type of cottage is the existence of by-laws as inexorable as the laws of the Medes and the Persians. For a long time past there has been an ever-increasing feeling against them both in professional and public bodies. Compliance with local by-laws was equivalent to spurning the progress made in recent years in the production of building materials. Letchworth is within the jurisdiction of Hitchin. Fortunately, the by-laws enforced in the district are more reasonable than those insisted on in many places. Indeed the exhibition serves as a strong indictment of the usual method of wielding the power entrusted to local authorities. There are nearly one hundred different types of cottages erected, and they all show a distinct advance so far as the exterior is concerned on the brick boxes with holes in them which have hitherto been produced as homes for the working classes.

Before proceeding it may be well to say a few words concerning Letchworth, where the exhibition is being held. In 1903 a limited company, known as the First Garden City, Ltd., purchased an estate comprising an area of 3,818 acres, or about six square miles, in the north of Hertfordshire, and 1½ mile from Hitchin Junction, on the main line of the Great Northern Railway. The directors made arrangements with the proprietors of the *Country Gentleman* for holding an exhibition of cheap cottages, and for leasing the land to those exhibitors whose cottages received their approval. There are about 200 dwellings built or in course of erection, and of these half are in connection with the exhibition. A large proportion of the latter are within a very short distance of the railway line. They will be for the artisans and workers in the garden city of the future. On the outer fringe of the estate there are houses for agricultural workers, &c., having gardens varying from half to one acre, while for the others the minimum is one-tenth of an acre. The estate has 200 acres reserved for purposes of open spaces. Rent of land for residences varies from 10*l.* to 25*l.* per acre according to the situation.

There were four classes of cottages arranged for the purpose of awarding prizes.

Class I.—The best 150*l.* cottage. For this a first prize of 100*l.* is offered. The cottage should be detached and in accordance with the following specifications:—(1) Number of living rooms—one living room and scullery or kitchen-scullery; (2) height of living rooms—not under 7 feet 6 inches; (3) number of bedrooms—three, with two fireplaces; (4) height of bedrooms—not under 7 feet 6 inches; (5) cubic space in bedrooms—2,000 feet.

Class II.—Best pair of five-roomed cottages (including scullery or kitchen-scullery) erected at a cost not to exceed 300*l.*

Class III.—Best group of three or four cottages, cost not to exceed 35*l.* a room.

Class IV.—Best detached cottage or pair of cottages, cost not to exceed 35*l.* a room.

NOTE.—The cost in each case is to be exclusive of architect's fee and builder's profit.

In addition several special prizes are offered:—100*l.* by an anonymous donor for the cheapest cottage in the exhibition, reference being had to soundness and suitability; 50*l.* by the Associated Portland Cement Manufacturers for the best cottage built of cement concrete; 50*l.* by the committee for the best wooden cottage; 10*l.* by Mr. H. G. Elwes, F.R.S., for the best design and specification of a wooden cottage to be constructed entirely of English timber; 10*l.* by the Co-operative Small Holdings Society for the best model of a small holding. There are also prizes for the best invention or improvement in building materials and fittings calculated to improve, cheapen, or facilitate the erection of cottage property.

In making their final award for all four classes the committee will take into consideration the relation of cost to appearance, accommodation, comfort, durability, fittings, suitability of material and efficient workmanship. The task of adjudicating upon the merits of the cottages will be a very difficult one, for the same problem has been treated from such widely different standpoints as to render comparison an onerous task. It would certainly be most hard to

COTTAGES AT LETCHWORTH.

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attempt anything of such a nature after a single visit. The competitions have aroused a widespread interest. It is noticeable that many of the architects are practising in country districts, where they would be in a position to realise what improvements are really required over the old types of cottages.

We might quote the claim advanced by Mr. Geoffrey Lucas in regard to his cottages as being typical of the entire number:—"The intention has been to keep the design as simple as possible, to make the buildings 'sit well' on the ground, and to look like cottages not small houses. Although simple, an effort has been made to obtain dignity and an architectural treatment, without extravagance."

The Bournville Village Trust have had a large experience in the designing of dwellings of this class, and their two exhibits deserve attention. Their single cottage amounts to a cost of 135*l.*, or with the addition of a bath, 138*l.*, and their pair to 369*l.*, or 31*l.* per room. The exhibitors are among the very few who have not taken advantage of every penny of expenditure permitted by the conditions of the competition. For exterior effect they rely principally on the assistance of nature, which will cover the walls with creeper and adorn the front garden with flowers and shrubs. In the interior particular attention is paid to privacy, and a central lobby affords separate access to each room. A timber-framed building near at hand is designed by Mr. Lionel F. Crane. The cottage by Mr. R. Whitbread is intended to fulfil the requirements based on the model by-laws of the *Local Government Journal.* There is a small hall round which all the rooms are grouped. Future occupants may not regret the absence of any back door, for even if its absence be more convenient, it has attendant disadvantages. Messrs. Bennett & Bidwell practise in Letchworth, and are consequently well qualified to use local materials to the best advantage. The Ealing Tenants, Ltd., describe their house as a design by workmen for workmen to live in; this accounts for the absence of exhilaration produced on the visitor. Almost without exception the cottages are fitted with baths which are placed in various positions, sometimes in the scullery or kitchen and sometimes in a partitioned space either on the ground or first floor.

Mr. Allen Foxley has thought it necessary in his description to defend himself for endeavouring "to steer clear in plan, elevation or detail of anything which should strike the tenant as bizarre or squalid," although such originality might be known to others as quaint and cottage-like. This course, he further contends, is the cheapest, for the British workman will not be original for nothing. It is unusual for a living-room, and still more a bedroom, to have windows on three sides, like we see in the cottage designed by Mr. C. G. Agate. The living-room includes the cooking-range, and thereby removes the musty idol known as the "parlour." The practice may be seen in many of the other cottages. A concrete cottage has been submitted by Messrs. Potter & Co. The outside walls, covered with rough-cast, are 7 inches in thickness, those in the inside 3 inches. The floor is formed of 5-inch Portland cement concrete on 5-inch hard clinker. In the two-storeyed cottage by Mr. W. Moss Settle the walls are solid oak posts grooved for 3-inch compressed cement concrete slabs. The time required for construction is only a month, for all the parts are delivered on the site ready for immediate use. Hollow concrete blocks impart an air of great solidity to the cottage of the Cements Products Company.

Messrs. Harrison & Hattrell have placed a bedroom in an unusual place, viz. leading off from the living-room on the ground-floor. There may be hygienic objections, but the woman who stays at home would find it invaluable in case of sickness or similar emergency. The New Expanded Metal Company have one detached and a couple of semi-detached cottages designed by Messrs. J. Oldrid Scott & Son, which show the qualities of that material. The external walls are, we are told, of timber-framing, expanded metal-lathing and Portland cement, plaster in two stains giving 4-inch hollow space. The internal walls are expanded metal covered with 2-inch plaster. The Uralite cottage is from the designs of Messrs. Wheeler & Son, and is a somewhat low building. The cost is 4*d.* per foot cube. The roof is rough-boarded, and covered with red Uralite Kent board tiles. Uralite is used inside and out. Mr. J. Cornes's combined stove, bath and copper is fitted in the scullery. Messrs. J. A. King & Co. contribute two different cottages, one having cost 130*l.*, or 26*l.* per room, while the other cost 165*l.*, or 27*l.* 10*s.* per room, inclusive of builder's profit. In both the walls are the "Mack" partition slabs 4 inches thick, the exterior being covered in rough-ca The cheaper one has all the accommodation on the groun floor. The outer walls of the other are, to the height the first floor, setts of "Mackolith," the slabs faced wi tiles to represent brickwork. The tiles are keyed to t slabs, and it is impossible to loosen them. The only bric work introduced is in the fireplaces. The Letchwor Building Syndicate have a number of semi-detach cottages which, inclusive of builder's profit and mo cottager and bath, amount to 150*l.* each. The walls a formed of 9-inch asbestic brick. The roof is of necessity Mansard one, so as to allow of the accommodation. T interior of the pair of cottages designed by Mr. T. V. Ma tindale is so ornamental that it may be a matter of so surprise that their cost was only 150*l.* each. Thus the flo of entrance, pantry and washhouse are laid with colour cement tiles. Mr. Martindale is a builder, and also man factures some of the materials, such as the tiles and t artificial stone.

Messrs. Barrett & Driver have designed two separa cottages and one pair. The architects lay down as one their articles of faith that the *sine qua non* of an ide labourer's cottage is a small parlour. We conclude th they would unhesitatingly cut down the area of the livin room in order to provide a place where the family Bib photograph albums, wax fruit and the other accessories the respectable working-man's parlour may be safely hous together with a volume of stale air. Messrs. Barrett Driver will not admit that the kitchen and the living-roo are synonymous. In one cottage the cost is as much 210*l.*; this is owing to the fact that it is "specially design for a pleasure cottage." In this instance attention is draw to the kitchen, which we are told is intended to be us as a sitting-room. This may cause a certain surprise, f the tenants of such a holiday cottage are far less likely live in a kitchen surrounded by the preparations and sm of cooking than a labourer. The architects announce th they have special methods of construction which redu the cost of the cottages from 20 to 30 per cent. T buildings are picturesque with buttresses, projecting gabl and rough-cast. The quality of quaintness is prominent i the pair of cottages submitted by Mr. Baillie Scott. In t forecourt in front of the verandah a sundial is to be plac in an ornamental setting of cobble stones, &c. The ro tiles have been removed from an old building, and a covered with moss. The parlour and kitchen are la with red paving bricks. The walls are 9-inch brick roug- cast.

It was unfortunate that a dwelling similar to those concrete slabs erected for the Liverpool Corporation h not arrived when we visited Letchworth. Mr. Brodie, t city engineer, has stated his case in the catalogue. T cost is 150*l.* After the concrete foundations have be finished, the remainder of the work will require only fr three to six days. The walls of the cottage erected by t Darlington Construction Company are composed of 1-in weather-boards, one layer of inodorous felt and asbest cement sheeting ¼-inch thick. The combination is said be equal to a 9-inch wall. The wood used by the compa is specially prepared in their own sawmills in Sweden by patent process. A circular or polygonal cottage is su- ciently unusual to attract attention to the one designed Messrs. Hesketh & Stokes. The rooms, which are all one floor, radiate from a central hall lighted from t roof, and reached through the parlour. If there a circular hospitals, why not circular dwellings? M A. J. Bateman has endeavoured to meet the wa of agricultural labourers in his pair of cottag For economical and other reasons he used "Ruberoid" a flat roofing material. He has found that "in addition giving a pleasing effect, it enables the cottages to be roo inexpensively with one small span, thus avoiding gr height in the roof and consequent waste of space, and al the cutting of roof to form gable hips and valleys." The is an air of spaciousness about the cottage designed by M A. Randall Wells which is not generally associated w one erected at a cost of 150*l.* But it works out to no mo than 2¾*d.* per foot cube. The axis of the house is paral with the main road, which effectually removes the pa known as "the back regions." The sitting-room, the livi- room and the scullery all look out on to the front. Brick used by the architect for the walls, for he believes that, "o side a stone district, the cheapest material at pres on the market is machine-made bricks." This eviden is not the opinion of Mr. F. W. Troup, whose cottage h walls of 4 inches by 2 inches timbers, braced and cover

insulating paper and weather-boarding outside. If the
tion is raised that such a wall is not durable, the archi-
etorts by saying that "repairs to them by the nearest
e carpenter are easy and inexpensive." Timber and
her-boarded walls are favoured by Messrs. Smith &
er also.

wo single-storey agricultural labourers' cottages (semi-
hed), shown by the Marquis of Salisbury, indicate the
s of a large landowner as to the best type of cottage.
have been built in Dorset, according to the designs of
W. Marshall, for 330*l*. A porch in the centre is
mon to both houses. There is no parlour. To reach
of the bedrooms it is necessary to pass through the
en and across the corner of another bedroom. The
stos roof is a lofty one, considering that the space is
; the perpendicular height from the ridge to the gable
is 11 feet. The Society of Artists show a cottage,
gned by Miss E. McClellan, which is remarkable for
size and number of the windows. The walls are
rete and timber having a thickness of 6 inches. The
er floor slightly projects beyond the lower and increases
picturesque effect. The cottage of the Wire-wove
fing Company has all the rooms on the ground floor,
in the construction some new materials are introduced.
erits attention.

The exhibition is worthy of a visit, and will prove of
p interest and usefulness to architects and builders.
chworth, it may be added, is reached from King's Cross
ess than an hour.

ARCHÆOLOGY OF BERKSHIRE.

N address was given by Mr. Charles E. Keyser, F.S.A.,
president of the Berkshire Archæological Society, on
occasion of the first visit of the British Archæological
sociation to Reading. After some introductory remarks,
ording to the *Reading Mercury*, he said :—

What are the attractions which have induced the Asso-
tion to assemble here to-day? First, there is the royal
inty of Berks, rich in examples of prehistoric, archæo-
gical and architectural interest; then there are the many
tiquarian objects outside the county, but within a con-
nient distance of the centre of our operations; and lastly,
have within the precincts of the county borough itself
uch that is worthy of our attention, in spite of the drastic
atment which has been meted out to our ecclesiastical
uctures both at the period of the Reformation and in
ore recent times. As regards the county, it is impossible
the short space of a week to undertake more than a visit
some of the more interesting centres and the whole of
e eastern division, containing the royal castle of Windsor,
e abbeys of Hurley and Bisham, the fine churches of
ray, Cookham, Sonning, Shottesbrooke and Warfield, the
cient manor-house of Ockwells, &c., has had to be
iminated from the programme. The name of our county
rnishes the first bone of contention to those who desire to
tain the correct derivation of its etymology. Berkshire
ems in early times to have been spelt with an "A," but
e name is greatly varied by the early chroniclers. Asser,
e historian of Arthur, derives it from the Wood of Berroc,
here the box tree grows abundantly; others suggest that
are Oak was the origin of the name. I may perhaps be
kating on rather thin ice in touching upon this point, and
el it will be safe for me to leave it to an expert like the
rincipal of Reading University to elucidate this subject.

In the north and south divisions of the county there are
any early camps and other prehistoric remains. We shall
ave the opportunity of visiting the White Horse Hill and
f hearing a discussion on the curious animal there cut out
n the turf, the date at which it was executed and the
bject which those had in view in delineating it. Here,
gain, we are immediately enveloped in the toils of con-
roversy, but no doubt my friend Mr. Theodore White will
e able to convince his hearers as to his theories. On the
ame day we shall visit the very interesting double cromlech,
Wayland Smith's cave or forge, travel along the old ridge-
way and mount up to the ramparts of Uffington Castle, one
of the largest camps in the county. On this day, too, we
shall see the numerous sarsen stones, deposited no doubt at
he close of the glacial period, and a visit (if time permits)
to Ashdown Park will prepare us for another controversial
discussion as to the site of the great battle in which King
Ethelred, assisted by his brother Alfred, decisively defeated
the Danes and expelled them for the time from this part of England. An inspection of the foundations of King Canute's palace at Lambourn will also be made, and this severe day will conclude at the ancient town of Wantage, which prides itself on being the birthplace of King Alfred, that enlightened monarch to whose forethought, wisdom and good government we owe so much even at the present day.

Of the other prehistoric remains I may enumerate the vallum enclosing the ancient town of Wallingford on three sides, the east being protected by the Thames, and a short distance above the Sinodun Hill and Wittenham Clumps. Wallingford may perhaps claim to be the most ancient town in the county, and can boast not only of a very early ford over the river, but of having erected a bridge which for some time was next above London Bridge to span the Thames. We shall no doubt hear on our visit there of the antiquity of its Corporation, and its claim to dispute with Winchester the honour of being the first town in England to adopt this form of local government. The massive earthworks of the castle, the old church of St. Leonard's with undoubted Saxon remains, and the other objects of interest in the town, and the delights of a trip on the river, should make this a memorable day to those who have not previously visited the locality.

Nor must we omit to notice the ancient town of Abingdon, at one period the capital of the county, and in recent times sharing the honour of that position with Reading. Its historical record bears witness to the early importance of the borough, both parliamentary and municipal, and the influence exercised by its noble Benedictine abbey, founded in early Saxon times, and possessing a church of which, alas! not one stone now remains above ground, more magnificent in its architectural details and the magnitude of its several portions than most of the cathedrals which have survived to our day. Many of the domestic portions have fortunately been preserved, and under the able guidance of our local secretary, the Rev. P. H. Ditchfield, will thoroughly repay a visit. The two churches of St. Helen and St. Nicholas have also been included in the programme. We still have a few churches remaining in the county which contain portions of the edifice existing before the Norman period. The little church at Aston Tirrold, said to be the one in which King Ethelred was praying at the time the battle of Ashdown was commencing, retains undoubted remains of the Saxon style, and at South Moreton, close by, a walled-up west doorway has recently been found under the plaster of equally early date. The tower of Wickham and portions of the tower of Cholsey also exhibit early Saxon characteristics, as does St. Leonard's, Wallingford. Most of the Berkshire churches retain their ancient features, especially with regard to their Norman work, and I have ventured to bring over my collection of photographic enlargements of the doorways, which will show the number of excellent specimens still remaining in the county. It has been impossible to arrange visits to the fine Norman churches at Avington, Hanney, Shillingford, &c., the Early English edifices at Uffington, Blewbury, &c., and the later examples at Hagbourne, Yattendon and others, but it has been found practicable to include, besides those in the towns, the churches of Sutton Courtenay, Childrey, Sparsholt, Aldermaston and Padworth, which all possess features of interest, and an extra excursion under the banner of the Berkshire Archæological Society has been arranged to visit Aldworth, with its remarkable series of monumental effigies to the De la Bèche family.

Of domestic buildings which abound throughout the county, besides those in the towns, it has been only possible to include Donnington Castle, so full of associations, especially with the times of the great Civil War, the Elizabethan houses of Shaw and Ufton and the historical residence of Aldermaston. The old Norman house at Sutton Courtenay has also very properly been placed in the programme. With regard to the excursions outside the county and borough, only three places have been scheduled. The church at Crowmarsh Gifford, on the opposite side of the river to Wallingford, with some good Early Norman work, will be visited if time permits, but the most interesting excursion is that to be undertaken to Silchester and Sherborne Priory.

Many of our visitors have had an opportunity, under the able guidance of Mr. Mill Stephenson, of seeing in the Reading Museum the excellent plan of the Roman city, and the wonderful collection of objects found during the exploration of the site. This has been carried on now since 1890 under the direction of the Society of Antiquaries, and most energetically supervised by some of our greatest experts.

Few better opportunities have been placed within our reach of obtaining a knowledge of the domestic life and habits of those who lived under the Roman rule, for Silchester as a great civil and residential centre came to an end with the departure of the Romans from this country, and with the exception of the church and manor-farm no buildings have since been erected within the ancient fortified enclosure. Thus, though the city was razed to the ground, and was no doubt used as a quarry for the district for miles around, the foundations and pavements of the various buildings remain *in situ*, and enable us to form an accurate opinion as to the arrangement of an important town in the first four centuries of our Christian era. Calleva Attrebatum, for we may assume that Silchester represents that city, although surrounded by solid and lofty walls, was never a military station, but rather a civil centre and county town, with its courts of justice, public buildings, shops and private residences, and no doubt a prosperous community during the Roman occupation. Many of the objects discovered bear testimony to the comparatively high state of civilisation which prevailed at the time, and the scientific manner in which the Romans guarded themselves against the rigours of an English winter is especially noticeable.

Had we continued our excursion to the south we could have visited the Vyne, the ancient residence of Lord Sandys, K.G., the Lord High Treasurer to King Henry VIII., and one who participated in no slight degree in the spoils which, on the dissolution of the monasteries, were distributed by the Merry Monarch to his personal retainers. We have a striking instance of the revulsion of religious sentiment which took place at that period in the fact that Lord Sandys actually constructed a new mansion within the walls of the nave of the abbey church of Mottisfont, in Hampshire, which had been granted to him. A daughter of Lord Sandys was married to Sir Humphrey Forster, of Aldermaston, and his coat of arms appears in the series of armorial shields still preserved in Aldermaston Church. Close by is another interesting demesne, namely, the moated mansion of Beaurepaire, the former residence of the Brocas family, many of whose members were noted for their proficiency in the warlike profession. The arms of Brocas are also to be found at Aldermaston Church, a lady of that family having married one of the De la Mares of Aldermaston. A drive of another three or four miles would have brought us to Old Basing, where recent excavations at Basing House have added to our knowledge of the memorable siege of that historic mansion during the great Civil War. With the many attractions nearer home it has, however, not been thought wise to go so far afield out of the county, and therefore the only other object in this district to be visited is the Priory of Sherborne, or Pamber Church, as it is now called. This was an alien priory, attached to the abbey of St. Vigor de Cerisy or Cerasy, near Bayeux, in Normandy, and was founded by Hugh de Port in the twelfth century, and greatly benefited by the Achards of Aldermaston and Sparsholt. Though of but small importance it possesses a very fine church, of which the Norman tower and Early English chancel alone remain. It was dissolved by Henry V., and the possessions were first granted by Henry VI. to Eton College, and afterwards by Edward IV. to the Hospital of the Domus Dei at Southampton, whence at the general dissolution of religious foundations they came to Queen's College, Oxford. There is a fine cross-legged effigy and some cross coffin lids in the church.

And now with respect to the county borough itself, with its rich historical associations, its early ecclesiastical and commercial importance, what are we to say? Are we to record it among the archæological "has beens," or are we to try and picture to ourselves from the fragments we have left the grandeur of the town as it appeared in the Middle Ages? The early history of the town is involved in obscurity, but it is hoped that through the assiduity and perseverance of the Principal of Reading University much fresh information may be gleaned. In the second half of the ninth century it seems to have been the centre of the various conflicts between King Alfred and the Danes, and it was not till the year 1121 that the foundation of its future importance was permanently laid. In this year King Henry I., partly as an atonement for his cruelty to his elder brother Robert, commenced the erection of the great abbey, which he liberally endowed, amongst other things with the hand of St. James, a relic which brought much wealth to the monastery, and which is still preserved in private possession. The king was buried in the church and a magnificent tomb erected to his memory, though the church itself was not completed and consecrated by St. Thomas à Becket till many years afterwards, viz. in 1164. From massive character of the existing walls and the beauty the architectural fragments scattered about in the Forb Gardens, the vicarage garden, &c., we may safely assu that the church was one of the finest Norman structures the kingdom, and that the chapter-house and other conv tual buildings were on the same imposing scale. How gri ous to think there were no public-spirited citizens, as in case of St. Albans, Tewkesbury, Malmesbury, Selby a others, prepared to come forward at the time of the Disso tion to preserve for the benefit of future generations this ma nificent church, a monument of the pious munificence our ancestors, and a conspicuous memorial of that religic sentiment which exercised so powerful an influence on classes in the Middle Ages. A few rubble walls s standing, a few sculptured stones still lying about on t site—all else gone, the materials of the church and oth buildings not only having been used for churches, hous and roads in the districts, but much having been cart away to repair the Castle at Windsor, a bridge at Wargra and other similar objects. It is, however, useless to bemo the past, and we may therefore reflect on the influen which this mitred abbey, with its abbot as one of the Lor Spiritual, a member of the Upper House, exercised on t fortunes of the town. No doubt under the influence of t abbots the three churches of St. Lawrence, St. Mary and Giles, all of which contain some remains of Norman wo were founded or rebuilt, and it may be suggested that th were so erected to compensate the inhabitants for so interference with their privileges owing to the annex tion by the abbey of what may have been the site of t earlier town of Reading. It was equally due to the influen of the abbots that from the earliest period of our parliamenta history Reading sent two members to that assembly, and the time of Henry III. a meeting was convened here, pr bably in the great chapter-house of the abbey. Many i portant convocations were held in the town, but it w not till the time of Henry VI. that the municipal Corpor tion was formally constituted. Their early functions see to have been to guard the privileges of the burgesses a townsmen from undue interference and exactions on t part of the abbot, and the earliest charters confer upon t Corporation rights of independent action which they ha not previously possessed, and which no doubt conduced the commercial prosperity of the borough. The dissolutio of the abbey and the execution of Hugh Faringdon and tw of the monks in November 1539, are matters of history, a are the important operations which took place at Readi during the great Civil War, and these will no doubt referred to during the congress. Greyfriars Church, aft having been used for the most menial purposes and havin remained roofless for many years, has now happily bee restored, and presents us with a very fine specimen Decorated work of early fourteenth-century date. Th castle exists only in name, its very site being now, as was 400 years ago, unknown. A few old houses remai but the most interesting—alas! that we live in a prosperou age, when everything must be viewed from an utilitaria standpoint—has been recently pulled down. This, know as Walsingham House, stood at the corner of Broad an Minster streets, and though its external features had bee much modernised, it contained some plastic ceilings of th Elizabethan period of unusual excellence. Portions of thes have, through the influence of the Berkshire Archæologica Society, been preserved, and it is hoped that a space wil be found for them in one of the public buildings of th town.

One more word as to the public museum and library The former, besides having many objects of general an local interest, has been made the resting-place of th wonderful collection, which is still being added to, of Roma antiquities, the results of the systematic research which ha been carried out now for several years at Silchester on th site of the city of Calleva Attrebatum. There is no othe collection of its kind to compare with this. The librar contains a very large collection of works referring to th county, which have been carefully catalogued. I must conclude this most imperfect address, which I have drafted i the form of a sketch of our proposed proceedings and th objects to be viewed by the members of the congress. Th fact recorded on the back of our programmes, that this i the sixty-second congress of this ancient Society, decided me at once not to attempt to go over old ground by descanting on the merits of archæological and antiquarian research. All reasonable people now acknowledge that much practical knowledge is to be gained by the study of the works and its of those who have lived and laboured before us, and an only trust that the assembling together of so many ightened students, who take a genuine interest in the tory of the past, may tend to kindle greater enthusiasm this branch of science, and further that the congress at ading may long be remembered as one of the most asant and successful in the annals of the British chæological Association.

ANTI-BUILDING BY-LAWS.*

By R. M. Lucas, F.R.I.B.A.

WHEN Mr. Walter Long, then president of the Local Government Board, made his reply to the criticisms rled against rural by-laws by the deputation which Sir illiam Grantham headed last November, he gave those esent to understand that in his opinion these building -laws were a necessity, and that no proposal for their olition could be entertained. As I had the honour of ing a member of that deputation, I know at first hand om the conversations that took place, before and after the ficial reception, that there was a very general feeling of sappointment at the unsympathetic and, to my mind, most callous tone of the President's speech. Perhaps he d not at the time realised so fully as his hearers the main oints of the matter. These are:—(1) That the present rural y-laws hinder the building of cottages in the country and help to drive men to the towns; and (2) that they have duced what building there is to a standard which is either that of good permanent nor good temporary building, but which may be described as a poor class of nonmporary work. (By "temporary work" I imply buildgs largely composed of perishable materials such as deal aming and weather-board; by "permanent work," such as e built chiefly of imperishable materials so that what erishable work they may contain can be renewed without ffecting the structure.)

The first of these points was most clearly expressed and xplained in a two-minutes' speech by the Duke of Suthernd. The second was not very definitely put forward by ny of the speakers, a good deal of time being occupied in ealing with the question of water supply in country disicts which, though an allied subject, was not the main one nder discussion.

The more one inquires into the matter and the more one ears of it the more convinced does one become that the xisting rural by-laws can and should be abolished, almost not quite in their entirety. Their very makers are saying o. Only last month Mr. James Lemon, at the annual eeting of the Association of Municipal and County ngineers, echoed Sir William Grantham in saying that the ooner by-laws were done away with the better. And herever one goes it is the same. So long as these by-laws xist, so long will rural depopulation with its attendant evils ontinue. Landowners of moderate means simply cannot fford to build under present conditions, and farmers cannot arm their land without new cottages for their labourers to ive in.

That is the main evil, but there are many others to be ound in the effect upon trade, of repression of inventiveness n building construction, &c., besides those which go without saying—the overcrowding in towns, the deterioration in stamina. And however well qualified and however willing o act fairly and reasonably the district surveyor may be, he regulations he is called upon to administer are such that e is always open to temptation, and also liable to be driven o inflict hardship and injustice in the name of the law. Otherwise he must endeavour to fill the difficult position of ne who is constantly having to decide where to draw the ine between enforcement and non-enforcement of penalties which he himself despises as unfair and absurd. And ust as some men are found acting on rural councils from he most unworthy motives of conceit, meddlesomeness and ishonesty, others there are who freely give for the public enefit very valuable services in what is often a thankless ause. But I am not writing of good laws well carried out, but of bad laws badly and ignorantly enforced and corruptly "worked."

On the possibility that under such a universal condemnation the rural by-laws may be eventually abolished, I have been working out a few simple suggestions in the hope that, although they are quite unlikely to effect anything directly, they may chance to reach the notice of some whose influence will work to alter the existing state of things. In this hope I am encouraged by the many kindly communications these articles have brought to me, and by their having had such a wide circulation.

First of all, it is necessary to distinguish between the sanitary by-laws and the structural by-laws. They have really very little to do with each other, and it is partly through their having been gradually blended that the present evil has grown to its present dimensions. As they stand, the sanitary laws are fairly satisfactory, and with slight modifications we could have one code for the whole of the kingdom without much hardship to anyone. With regard to these, I suggest no alteration.

My excuse for presuming to put forward one or two ideas on the subject of what might be done if the present rural building by-laws were abolished is that, having studied the matter for years, I feel very keenly and earnestly the need of finding some new way of tackling the "jerry-building" difficulty, which rises like a spectre behind any suggestion of abolishing the by-laws. In spite of Mr. Long's horror at the suggestion, is there anything so very terrible in the prospect of building without by-laws to regulate it? We have the surviving evidence of past centuries to guide us, and this evidence gives us every reason for believing that if the by-laws were withdrawn matters would be at least no worse than they have been in the past, and not so bad as they now are through the existence of the by-laws. It is only during recent years that rural by-laws have been considered desirable, and it is astonishing how rapidly they have proved themselves undesirable.

Instead of by-laws I venture to suggest that a committee should be appointed to prepare a schedule of instructions to intending builders. These instructions should be as few and as simple as possible, and should be written in plain English. The pamphlet should have a proper index, and its paragraphs should not be made confusingly alike by repetitions of "every person who shall erect a new building."

Every person desirous of building should be obliged to obtain a copy of this schedule. For exceptional cases, such as riverside buildings, special leaflets, like those issued by the Board of Agriculture, might be supplied.

The district surveyors should be always accessible to builders for advice upon questions of construction, and should, of course, be properly qualified to give it. (I fear this requirement would involve a considerable weeding-out of men now holding official positions.)

The adoption of the advice should be entirely at the option of the builder (this term here including the building owner or his agent where an architect is employed).

Until the completion of the building the builder should be left alone.

Upon completion, and before the building could be tenanted, the surveyor should have to inspect it, and his certificate, favourable or otherwise, should be placed prominently in the house. If the building had been honestly and soundly put together, the builder would be entitled to receive a certificate of merit, renewable perhaps every five or ten years; if otherwise, the building's defects should be set forth in a certificate of demerit. Purchasers or tenants would then read and judge for themselves.

Only if the building were actually unsafe, or likely to become so, should it be pulled down or condemned to remain empty.

I believe that the suggested measures would give ample protection to the public against bad building, while at the same time individual effort would be encouraged. Not only would the builder be aroused to take in his work an interest which is dormant at the present time, but he would receive the best and newest information on a subject which varies with every introduction of new material—as witness the changes brought about by the inventions in the use of asphalte and reinforced concrete. The present by-laws instruct nobody. They say, often in ambiguous language, that certain things are to be, and there is an end of it. The reasons for these regulations are never stated—a fact which is not difficult to understand.

While protecting the honest and intelligent, and instructing the ignorant, the proposed certificates would deter men from jerry-building, for not only would the number of available tenants and purchasers vary with the wording of the certificates displayed in a house, but the mortgage value would also vary.

A man may have as much right to live in a one-roomed wooden hut as six men have to live in a six-roomed brick cottage, providing that by doing so he does not affect others; but while the cottage could be mortgaged for two-thirds its value, the hut would not even form a security for two-thirds its cost, than which its saleable value would be considerably less.

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* See *The Architect*, July 7, page 13.

For the protection of builders against unjust district surveyors, some arrangement for appeal should be made, and it might perhaps also be enacted that officials receiving salaries for doing their duty should be fined in cases where they were proved to have deliberately overstepped it.

In this reputedly free country there have been several instances of buildings being pulled down, destroyed altogether, although soundly built, perfectly sanitary and desirable to dwell in, simply because they contravened some fad or other issued officially in the form of a by-law. Only last week a district surveyor was bragging of the buildings he had pulled down. Apparently the fact was quoted as showing his fitness for the post of adviser on building matters to his Council. To those who know or can imagine what it means to a man to have his honestly-done work destroyed before his eyes, such boasts are utterly nauseous.

The following case is a mild one comparatively, but cruel and sad enough in all conscience :—

A gentleman's servant, after years of work, had saved up sufficient money to purchase a small piece of land in the country and to build himself a little homestead. When he had completed it he found that before he could occupy it the consent of the Rural District Council must be obtained. The building was not according to the by-laws. The consent, therefore, was and is still withheld, and the building, though left standing, has never been, and while the by-laws remain in force can never be, a home.

This in a country reputed to be free.

CONFISCATION IN GLASGOW.

THE ingenious scheme of the Glasgow Corporation, by which ground was to be obtained for widening the streets without paying compensation, has been retarded by the Scottish Courts. As no less than seven judges were concerned in the decision it will probably be final. The case related to the register of public streets which was prepared by the Corporation under the Glasgow Buildings Regulation Act of 1900. In that volume the width of streets was to be entered and also shown on the Ordnance map. It was also enacted that the Dean of Guild should not, without the special consent of the Corporation, grant permission for the erection or re-erection of any buildings upon ground adjoining any street, unless on the condition that one-half of the width of the street would be cleared of all structures existing thereon, and it went on to say that for the purposes of this section the width of the street should be the width set forth in the register. The Caledonian Railway Company considered that the width stated in the register was not the width of the street as it actually existed where their railway works were situated, and that in certain cases the width, as stated, included not only parts of areas of unbuilt-on land in front of property belonging to them, but also included railways, works and buildings, and solum thereof belonging to them. Believing that if it were necessary to erect or re-erect any buildings they would be bound to surrender a large slice of their property and throw it into the public street without any compensation, the company took proceedings in order to have it declared that the entries relating to the railway premises were illegal and incorrect, and should accordingly be deleted.

The Lord President, in the course of his judgment, said that so long as the Corporation kept within the lines prescribed by the statute the Court would give effect to the finality clause. But if, under the guise of doing a statutory act, the Corporation did something beyond the statute they would be doing something ultra vires, and no finality clause could protect their illegal act. Under the guise of entering the width the Corporation were not entering the width at all, but were fixing and describing an ideal street, which, by the operation of Section 20, would be turned into a real street the moment the railway company wished to build, to their great loss. It was admitted that, so far as certain of the streets were concerned, the width stated was not the width of the street as it actually existed. Then the survey map gave in colouring the widths of the street as it actually existed. In the register it was impossible to enter all the different widths of a street. It was admitted that the entered width of the streets was not an actual width, but it did not go on to say upon what view the register had been prepared. In the course of the discussion he pressed the learned counsel who appeared for the defenders again and again to say what was the theory upon which they say the register was constructed. His Lordship could not say that he was met with any frankness of statement on the matter. Sometimes when one could not discover what was intended in the abstract, one could in the concrete. There was a portion of Buchanan Street where the street, which for the most of its length was broad, was constricted at the end near Argyle Street, and they found that portion of Buchanan Street described in the schedule attached to the summons as 70 feet wide. In other words, the constriction, so far as the register was concerned, was completely ignored. The ground there was very valuable ground, and extended, looking at the map, to not less than 60 or 70 square yards. It needed no speculation to see that the value of that ground, in probably the very best situation in Glasgow for shops, is represented by a very large sum of money. When he proceeded to ask the learned counsel if, on the next building or rebuilding of that side of the street, that ground was to be confiscated, it was answered that it would then be thrown into the public street, but counsel preferred to call it the transference of private property to public uses rather than confiscation. His Lordship was bound to assume that the statement was made on instructions, and the result, to his Lordship's mind, was, to put it at the very lowest, that he was satisfied that it would not be safe to assume that this register had not been framed in the supposed interests of the public in general to effectuate this compulsory transference of private property, without payment, for public uses, which plain people were accustomed to call confiscation. He need hardly say that if that proceeding was one warranted by Act of Parliament, their Lordships had nothing to do with the question whether it was confiscation or not. Their duty was to give effect to what the Legislature had laid down. But, none the less, they were the guardians of private rights, and as such were bound closely to scrutinise the Acts of Parliament to see whether they had in truth brought about a result so repugnant to the principles upon which Acts of Parliament usually proceed. His Lordship then went on to examine the provisions of the Act, and dealt first with Section 9. He pointed out that the present register had come prima facie in place of the register of 1866, which was only a list setting forth public streets in contradistinction to private streets; that the register, with its accompanying map, was to be made once for all, and, after provision for correction, was a completed document; that it was to be made of the streets then in existence; that the particulars, other than width, *de quo querito*, were the particulars describing existing and actual, not prospective and ideal, things, and the definition of width in the interpretation clause also described an existing state of circumstances; and that the register and map were not contradictory but were ancillary documents. All this pointed clearly and plainly in one direction, namely, that width, like the other particulars, had reference to an existing state of affairs, and not to an ideal or future state of affairs, however desirable that state of affairs might be. Indeed the Corporation had but little to say on that section at all, their only argument being, he thought, that it would be inconvenient, as some of the streets might require 100 entries. But see what they said as to the map. They said that although it would be so very difficult, and indeed almost impossible, to describe such a street in the register, the colouring on the map did show the width of the street exactly as it appears. He need scarcely say to their Lordships that in making the map different from the register the defenders seemed to have gone straight in the teeth of the statute. But, at the same time, he could not think that what could be done in the map could not be done in the register, and he was in no degree alarmed at the prospect of there being so many hundreds of entries in one street. After all, the rights of individual proprietors, who might number more than 100 in one street, were to be very carefully guarded, and his Lordship did not see that it was in the mouth of the Corporation to say that they had neither paper nor time to make 100 entries in one street.

In conclusion, his Lordship said that the register was not yet complete. It was only lying before the sheriff. The appeals were not yet disposed of. If the register so far parted from its proper functions as the company said, they could not assume that the sheriff would not correct it, and it seemed to his Lordship that to reduce it *de plano* d be acting on that assumption. He was entitled to ne that the sheriff would take the correct view of the and his Lordship was sure that, with the loyal ad-nce to the law which the sheriff had always shown as down by the supreme Court, he would not set up for self a different construction of the Act than that which nch of seven judges had declared to be the true one. sheriff would therefore approach the question with the of their Lordships clearly expressed that width meant al width—a width fixed with regard to actual condi-s, and not based upon theories as to what would be a ic improvement. If he applied that view, his deter-ation would render any such action as this unnecessary. if, for argument's sake, they could assume that the iff did not do so, then his Lordship did not think it btful that the register would still be open to reduction, use no information of the sheriff could make *intra* s an *ultra vires* act of the Corporation.

THE ARCHITECTURAL ASSOCIATION.

HE prizes for work in the day and evening continuation schools have been awarded as follows :—

First Year Awards.—Mr. E. Stanley Hall, first place in ory and construction tests ; Mr. V. C. Batalha Reis, first e in freehand drawing tests ; Mr. Maurice S. R. Adams, t work in studio during whole session ; Mr. W. J. Jones, ay.

Second Year Awards.—Mr. W. W. Scott Moncrieff, velling studentship awarded for studio work during sion 1904-5, holiday work during three vacations, general progress ; Mr. F. T. W. Grant, extra student-p awarded for general excellence in studio and holiday rk ; design placed first, Mr. F. T. W. Grant, end of session t special prize offered by Mr. H. P. G. Maule, subject, "A lage Hall," award made by Mr. E. Guy Dawber ; bracketed ond, Mr. A. G. Blackford, Mr. H. I. Merriman, Mr. W. . Scott Moncrieff ; third, Mr. A. N. Peckham. Mr. H. I. erriman, prize for studio work and excellence in draughts-nship.

Evening Continuation School.—Book prize for general rk, Mr. Arthur Walford ; second place, book prize, Mr. K. Ground.

TESSERÆ.

Drawings and Engravings.

DRAWING must not be considered as an end, but as a means only by which the painter can be securely nducted to the end proposed. Though it be the principal d most essential part of his art, yet it is but a part, and t the whole. For although the chiaroscuro, which companies what is called a finished drawing, produces a tality in itself, yet this totality is nothing more than an perfect substitute for the totality of painting, which mprehends the whole natural appearance, as well in the lours of objects as in their forms and degradation of fects. These imperfect substitutes of painting, which are lled finished drawings, and which comprehend the whole what is proposed by the engraver's art, are to be con-idered as consisting of three parts. The first and most nportant is that which regards the essential forms, the aracters, the expressions, spirit and vivacity ; the second at which regards the rilievo and truth of the effects in e light and shade and degradation of objects ; and the ird that which regards the handling or mechanical eatment, which, though it be of infinitely inferior con-ideration, yet it ought to be conducted in a workmanlike nd becoming manner, whatever mode of execution be dopted, whether lines or washed tints, on paper or on opper. The works of Audran, Edelinck, Frey, Pontius, orsterman, Cars, and all the masterly engravers, afford xamples of the soundest practice in this way. Every thing f importance is rendered *con amore* with the highest skill nd assiduity, and their conduct in the more mechanical art, the treatment of lines, appears with a noble, skilful implicity only to follow as the consequence of a practised nd well-exercised hand. Every part has its own peculiar reatment, whether fleshy, muscular, or nervous. Whether ou consider the cattle of Berchem and Vischer, or the locks, foreground, trees and landscape of Lawrence, ivares and Chatelin, it is all drawing, and no other taste f lines is adopted than what springs altogether from the ssential form and material of the several objects. This admirable detail of execution, attached only to the truth and characteristic nature of objects, was still improvable into any force of effect and depth of tone, but the experience of all ages shows how difficult it has been in the improvement of arts to stop in the right place. Folly and ostentation will go further: unskilful men, blind to the real intrinsic beauties of their art, which they have but ill studied, are very liable to mistake the means for the end, and so employ their whole solicitude in the pursuit of lines, as a principle sought for on its own account, where, without any higher reference, they may have an opportunity of exhibiting the unnecessary difficulties and curious niceties of stroke and execution which, like the graces often met with amongst fiddlers, only serve to perplex and destroy the groundwork of expression, character and sentiment which they so absurdly attempt to illustrate.

Sculpture and Architecture.

The aid of sculpture is valuable as producing the charm of variety, a result which we cannot illustrate more forcibly than by reverting to the Grecian temple. Edifices of this class were for the most part so similar in the simplicity of their general arrangement, that even the cultivated taste of an Athenian for abstract beauty could not have withheld the charge of monotony, but for the interposition of the picturing chisel. Hence the Centaurs and the Lapithæ fought in marble, hence the assemblies of the gods occupied the "eagles" (as the Greeks called their pediments or gables), hence the carved procession imitated the real in perambulating the sacred cell, and hence the heroes and demi-gods displayed, as in their own homes, the triumphs which they had achieved abroad. Useful, however, as sculpture may thus be made for the relief of architecture, we cannot consider it advisable to make the latter so subordinate as to be tributary to the former for its distinguishing character. The resources of architecture are sufficiently ample to render it independent of foreign aid for all that is purely distinctive, though not to supersede the introduction of sculpture as a collateral source of interesting variety. The use of sculpture is productive of a further advantage, namely, by imparting to the architectural masses in which it occurs spirit and liveliness of effect. The former examples, from Greek usage, might be illustrative also of this point; but none can be more powerfully so than the instances adducible from the practice of our old builders in the Pointed style, whose grotesques and figures generally, whether of aspect hideous, ludicrous, pleasant, or sedate, are valuable, not only as affording a series of picturesque varieties, but also as giving an air of animation directly counteractive of tameness and flatness of design. We cannot, therefore, but regret the hyper-criticism of those who would indiscriminately banish such devices from modern Gothic, recommended as they are alike by established authority, old associations and happy results.

Newcastle-on-Tyne.

Many centuries before the fortress rose which gave to Newcastle its present name, Roman legions occupied this remote frontier of the Imperial possessions, and it was in those days a place of strength. About 1,800 years ago a colony of Roman soldiers came to the banks of the Tyne, and about the eightieth year of the Christian era Julius Agricola, governor under the Emperor Titus Vespasian, established here a military station for the security of the northern province. To that station a branch of the great military way conducted from the southern portions of Britain, then traversing fell and forest, morass and moor. About forty years afterwards the Emperor Hadrian built his famous rampart, besides a bridge across the Tyne, and from this circumstance (his family name being Ælius) it is believed that the Roman station acquired the name of Pons Ælii—the only name by which this place was known in the days of Roman dominion. The massive walls of that station are now occasionally brought to light in excavating beneath one of the busiest streets of Newcastle, and tradition points to the mother-church of St. Nicholas as being on the site of the Roman temple, and to the modern building called the Moot Hall as standing on the eminence formerly defended by the south-eastern tower of the Roman fort. But however important or populous this place may have been in the days of the Romans, the scanty annals of Saxon history afford no mention of it during the centuries which elapsed between their departure and the establishment of Norman power in England. It is, however, an interesting fact that in the adjacent valley of Pandon (now a part of Newcastle), situate within a few hundred yards eastward of the Roman bridge and station, and sheltered by the Roman wall itself, there was a Saxon settlement which was an abode of royalty. At a meeting of the Archæological Institute good reasons were once adduced for concluding that it was the Ad Murum to which Venerable Bede refers as a royal "vill" of eminence, and the place at which in A.D. 654 Penda, heir of the kingdom of Mercia, received baptism. The place so referred to was called Æt Walle by the Saxons (as appears from the Saxon version), and the name of Wall Knoll above the declivities of Pandon still commemorates the great barrier which sheltered the Saxon "vill," but has itself disappeared. Below it is the spot to which tradition points as the site of the ancient royal abode. This old "vill" of Pandon was distinct from the town of Newcastle down to the end of the thirteenth century, and at that time occurs as a little town maintained by the productive salmon fisheries of the Tyne, but in 1298 it was incorporated with the municipality, and is now overspread by houses which unite it to its encroaching neighbour and spread far to the north and east. No mention, however, occurs in Saxon times of a church or a monastic foundation at or near the place afterwards known as Newcastle. The only church known to have been existing on the northern banks of the Tyne at the period when the royal heir of Mercia was baptized was Tynemouth, on the east of Newcastle, and no doubt if a church had existed on the site of the Roman town or at Pandon it would have been mentioned by the venerable historian.

Colour in Painting.

He that would excel in colouring must study it in several points of view: in respect to the whole and in respect to the parts of a picture; in respect to mind and in respect to body, and in regard to itself alone. Like sound in poetry, colouring in painting should always be an echo to the sense. The true colourist therefore will always, in the first place, consider the nature of his subject, whether grave or gay, magnificent or melancholy, heroic or common; and according to the time and place, whether his scene be intended to represent day or night, sunshine or gloom, a cavern, a prison, a palace or the open air, such will be the predominant hues of his piece. Colour must also be employed to harmonise, invigorate, soften and aid his chiaroscuro in giving shape and unity to the masses of brightness and obscurity necessary to bring out a striking and an agreeable general effect, and in distinguishing by their depth, strength or brilliancy the principal and subordinate figures, groups and actions of the piece, each in its proper degree, by which the eye is enabled to rest undisturbed on any separate part, to travel undistracted over each in succession, or, by fixing at once on the principal object, to enjoy the full and united impression of the whole.

Contrast in Architecture.

Contrast teaches us to give a due relief to all which we would desire to call attention. A sudden break in a long straight line, a slender necking in a continuous sweep, a sudden concavity in a generally convex outline, a bold projection starting forward from a even plane, right lines opposed to curves, segments to sections of the cone, smooth to rough surfaces, conventional forms to direct imitations of nature, all carry out the desired object, and are every one subject to the phenomena of simultaneous contrast of form. To obviate such optical delusions allowances must be made in every case by the artist. Many such corrections are constantly perceived and effected by the eye, but few, alas! by rule. In reference to such corrections, it is justly remarked by so ancient a writer as Vitruvius that "the deception to which the sight is liable should be counteracted by means suggested by the faculty of reasoning. Since the eye alone," he continues, "is the judge of beauty, and where a false impression is made upon it through the natural defects of vision, we must correct the apparent want of harmony in the whole by instituting peculiar proportions in particular parts." It is singular that this passage should occur in connection with the subject of entasis, and the theory of those subtle proportions in the construction of temples on which the Greeks bestowed such exquisite refinements of study.

Mr. James Mansergh, F.R.S., of Lune Lea, 51 Fitzjohn's Avenue, Hampstead, N.W., of 5 Victoria Street, Westminster, engineer for the recently completed Birmingham Corporation Waterworks, who died on June 15 last, aged seventy-one years, left estate of the gross value of 103,641*l.*, of which the net personalty has been sworn at 91,840*l.*

GENERAL.

The Lords Commissioners of His Majesty's Tre have appointed a committee to inquire into the carried on by the Royal Hibernian Academy an Metropolitan School of Art in Dublin. The followin serve on the committee:—Lord Windsor, First Con sioner of Works, chairman; Earl of Westmeath, Mr. J Madden, Mr. George Holmes, C.V.O., C.B., chairman o Board of Public Works, Dublin, and Mr. J. P. Boland, Mr. H. P. Boland, of the Board of Works, Dublin, wi as secretary.

A Report has been received by the Dean and Cha of Winchester Cathedral from Mr. T. G. Jackson, R.A. diocesan architect, upon the subsidence of the east e the cathedral and a fault in the west front. The report not be published until it has been before the whole of Chapter.

The Grave of Sir Hector Macdonald has been ma by a freestone obelisk 20 feet high, supported by ca balls at each corner on a richly decorated base. In f stands a pedestal terminating with an Ionic cap, beari bronze bust, while from the four corners of the base h festoons of laurel, carved in high relief. On the cornic the upper pedestal lies a flag, with a Highland fea bonnet and claymore. The sculptor of the monume Mr. Birnie Rhind, R.S.A.

Mr. Archibald Dunn, J.P., past president of the Nort Architectural Association, Wood House, Bournemouth, formerly of Newcastle and Castle Hill, Wylam-on-T has sent Mr. Arthur Plummer, hon. secretary of t Association, a cheque for 50*l.* for the permanent premi fund. This was sent by Mr. Dunn upon receipt of a le from his friend, Mr. W. Ellison Fenwicke, of Newcas advising him that the alterations and improvements the premises in Higham Place have been satisfacto completed.

The Committee for the international competition for plans of the Palace of Peace to be erected at The Hague consist of the following architects:—Mr. T. E. Collc London; Dr. P. J. H. Cuypers, Hague; M. Nenot, Par Mr. Geh.-Ober-Hof-Baurat Thue, Berlin; Professor Koning, Wien, Austria; and Professor W. R. Ware, Milt Mass., U.S.A.

The Levenshulme District Council have agreed to o three premiums of 50*l.*, 25*l.* and 15*l.* for designs of pu baths, the total cost not to exceed 5,000*l.*

Projects for the improvement of Calcutta, at an outlay five and a half millions sterling, have been approved by Indian Government.

A Statue of Benjamin Franklin is to be erected in Pa near the Trocadéro. It will be a copy of one which w modelled for Philadelphia. Franklin lived for some ti in Paris as the representative of the United States.

M. Fernoux, president of the Société Nationale d Architectes de France, has been made a Chevalier of t Legion of Honour. A like honour has been conferred M. Février.

Mr. W. H. Watkinson has been appointed to t Harrison Chair of Engineering in the University Liverpool. He is at present professor in the Glasgo and West of Scotland Technical College.

The French Academy of Fine Arts declined to award t Prix de Rome for painting last year. It was expected tw prizes would be awarded this year, but it was again co sidered that none of the examples produced were worth th prize—a decision which has caused much disappointment.

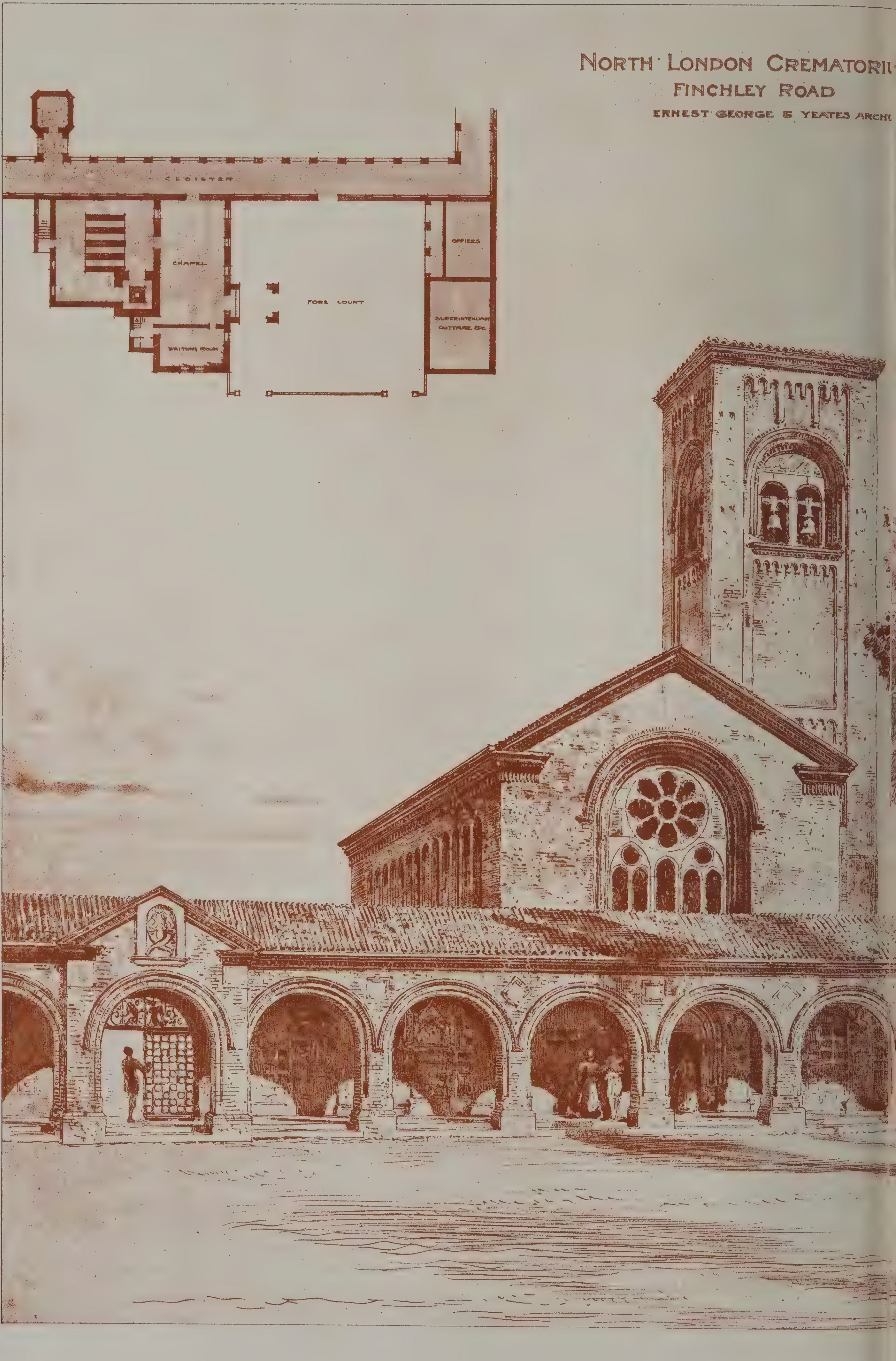
The King of the Belgians has purchased the tempora decorations in the Avenue de l'Opéra, Paris, which we set up on the occasion of the visit of the King of Spai They are to be used at the racecourse of Ostend.

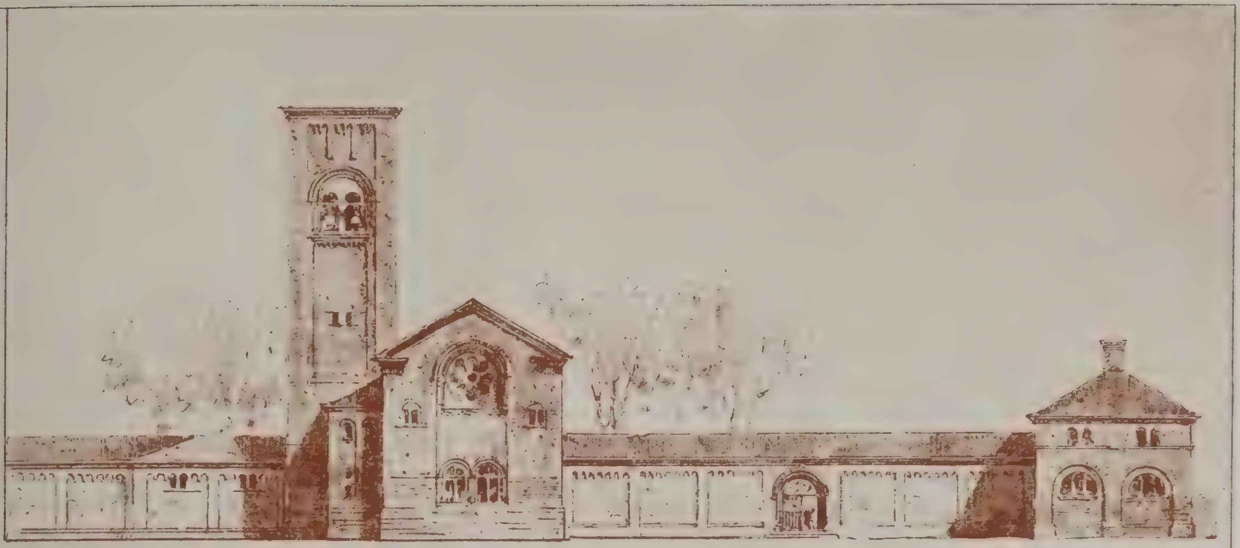
The Northants County Council have decided on th appointment of a buildings inspector, to devote his whol time to the duties of the office under the direction of th secretary, at a salary of 150*l.* per annum, with third-clas travelling expenses. A consulting architect will also b appointed at a retaining fee of 100*l.* per annum, in case where a personal visit to a school is necessary, a fee o 1*l.* 5*s.*, to include expenses, to be allowed, it being a condition of the appointment that the consulting architect d not submit plans in connection with schools under th jurisdiction of the committee.

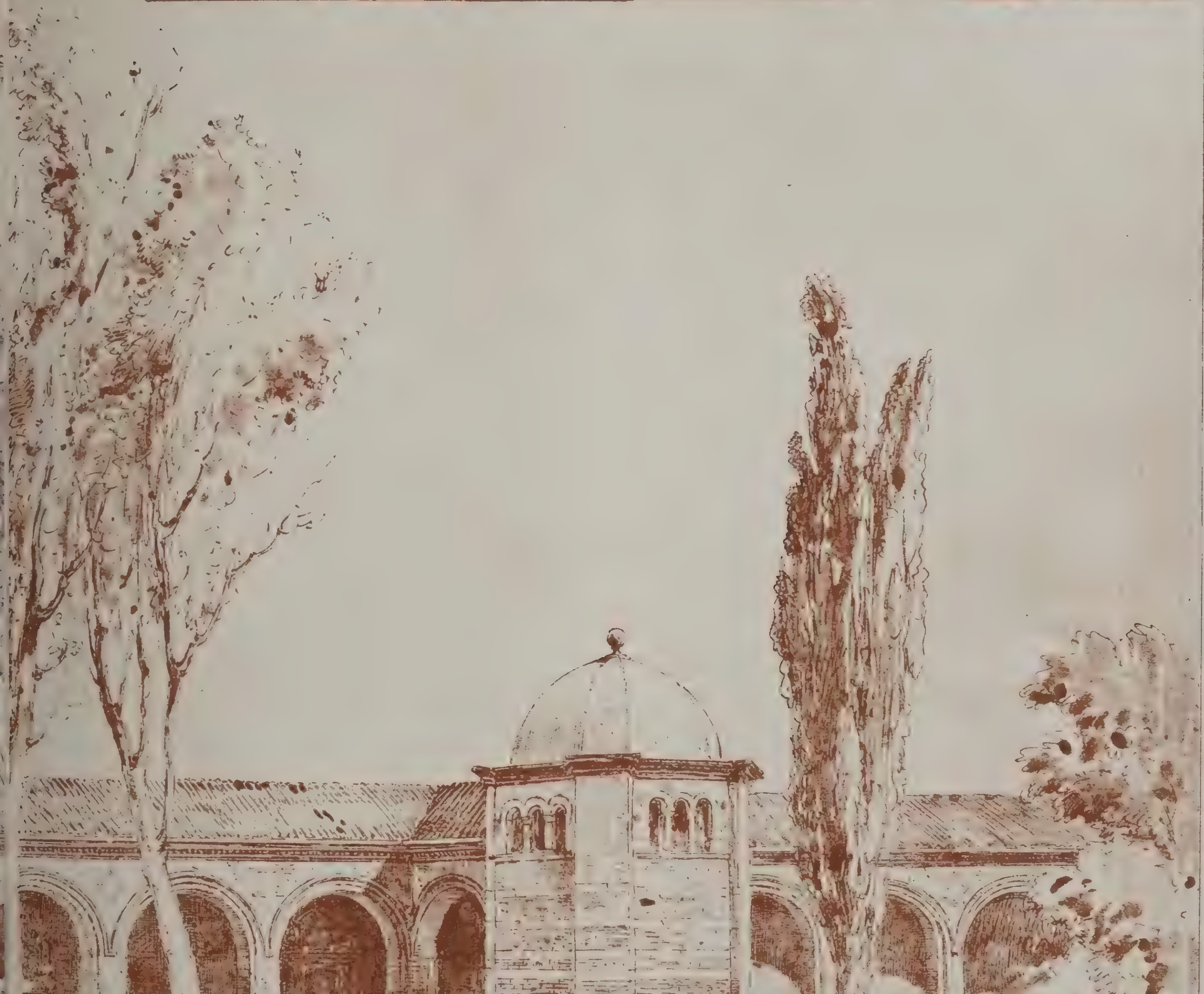
NORTH LONDON CREMATORIU

FINCHLEY ROAD

ERNEST GEORGE & YEATES ARCHT







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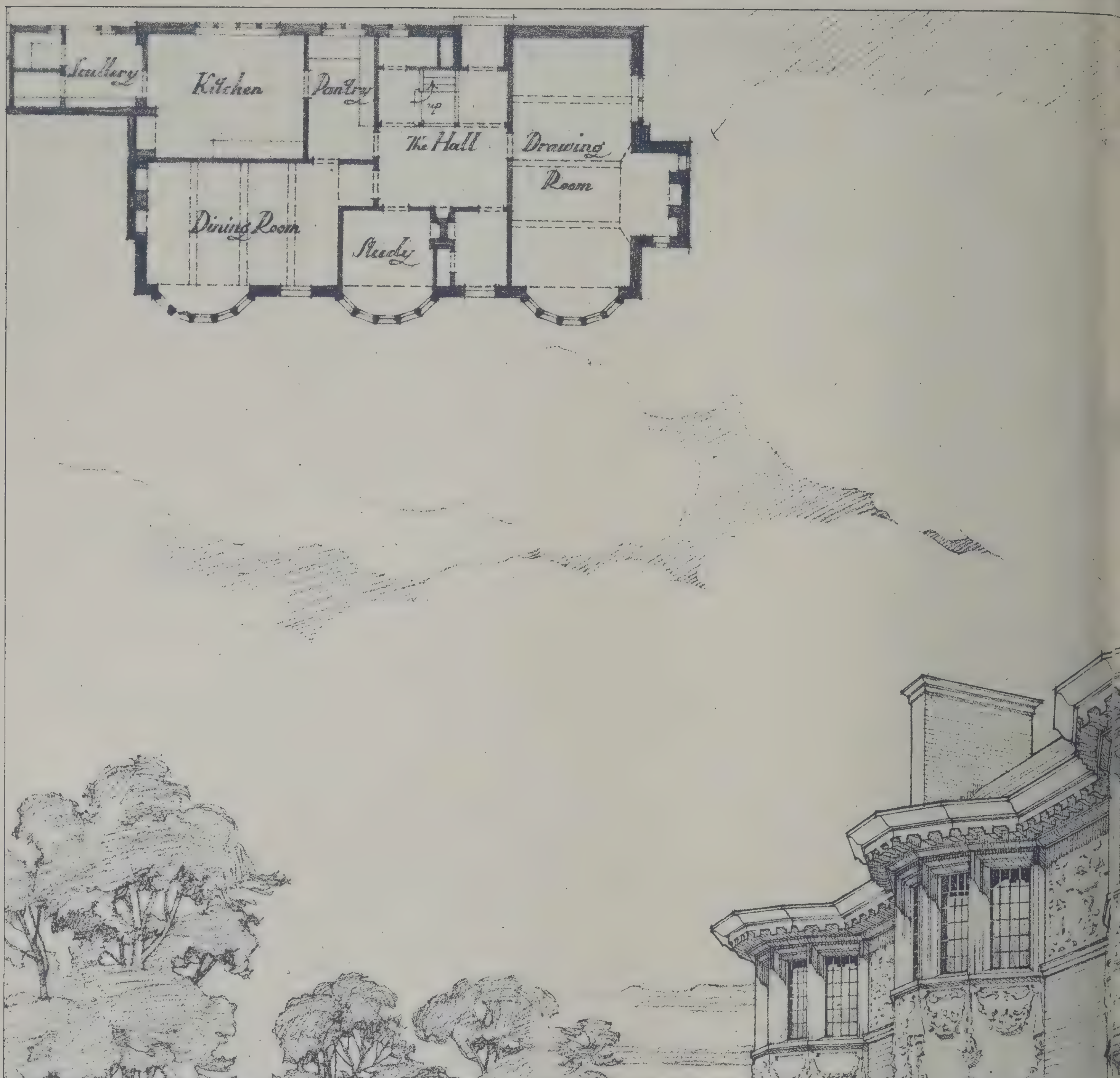
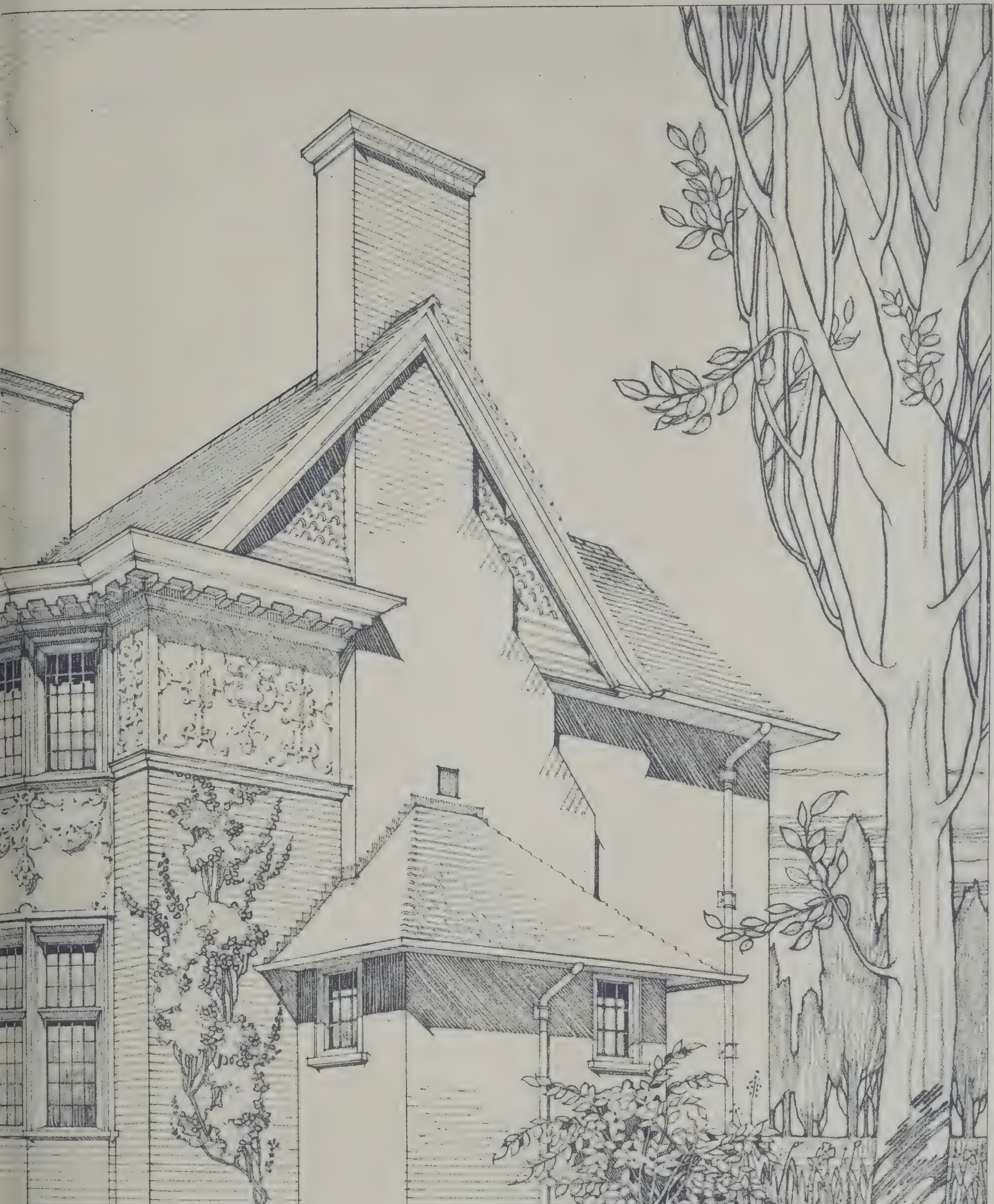


A HOVSE & FARM at Northwood ~ Arnold Mitchell. Archt.



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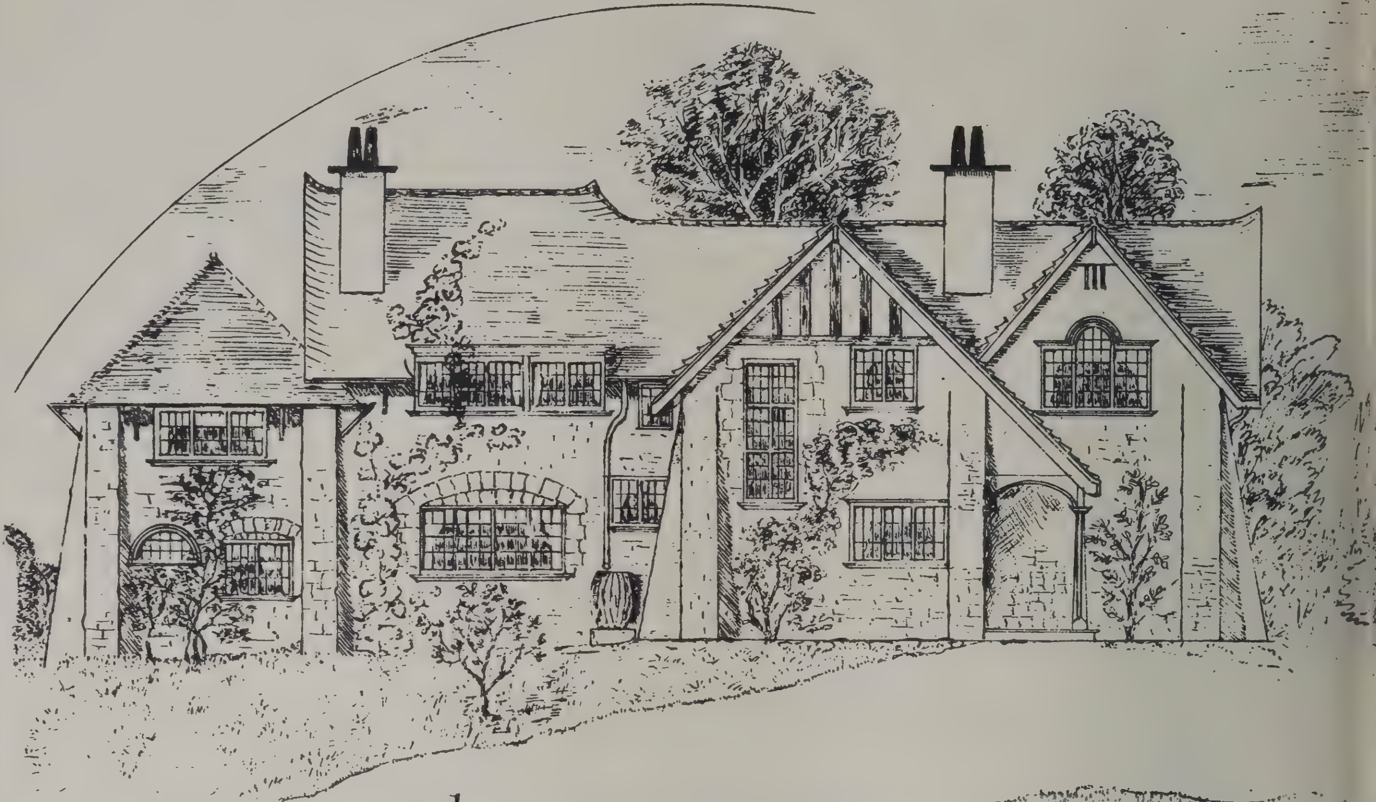
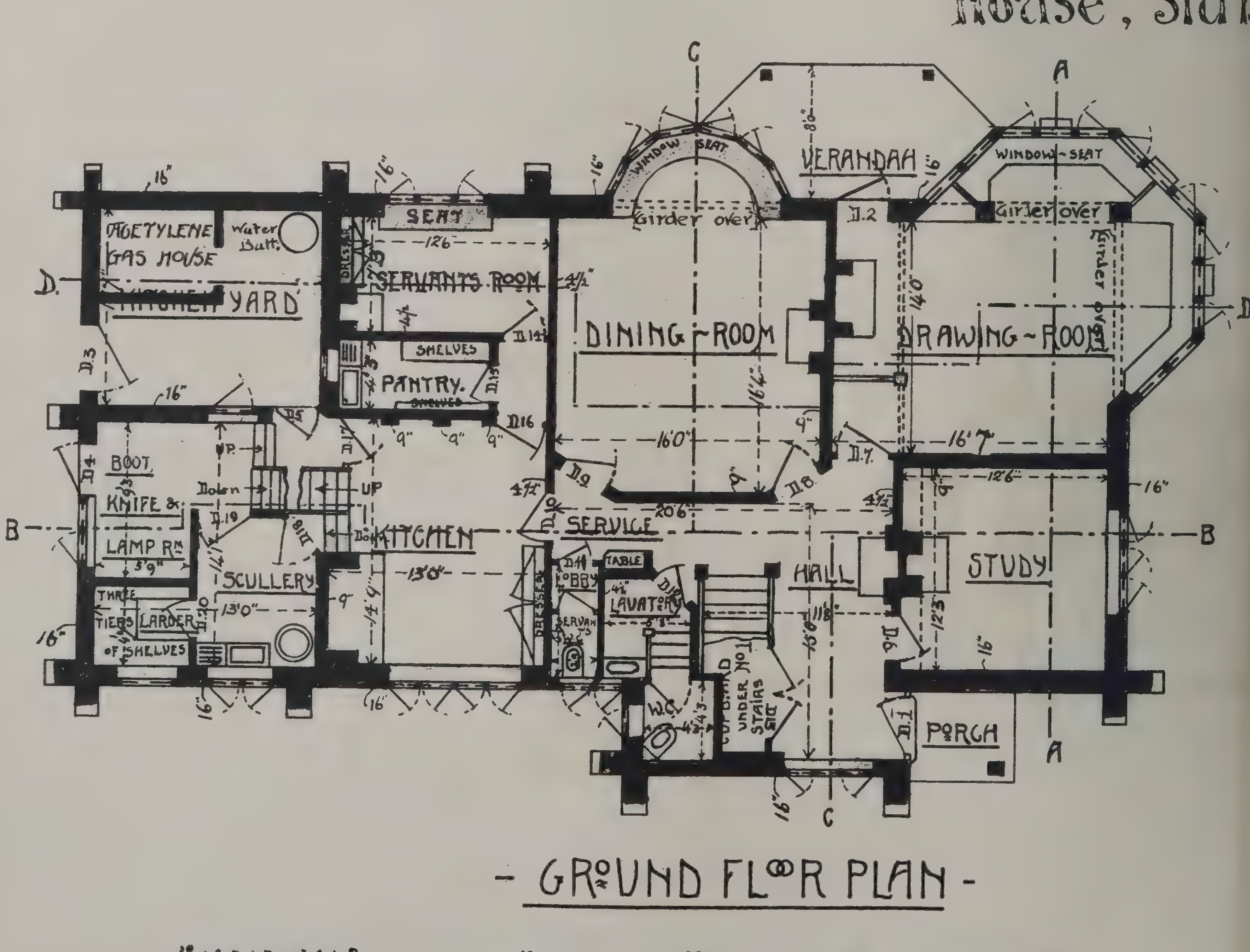
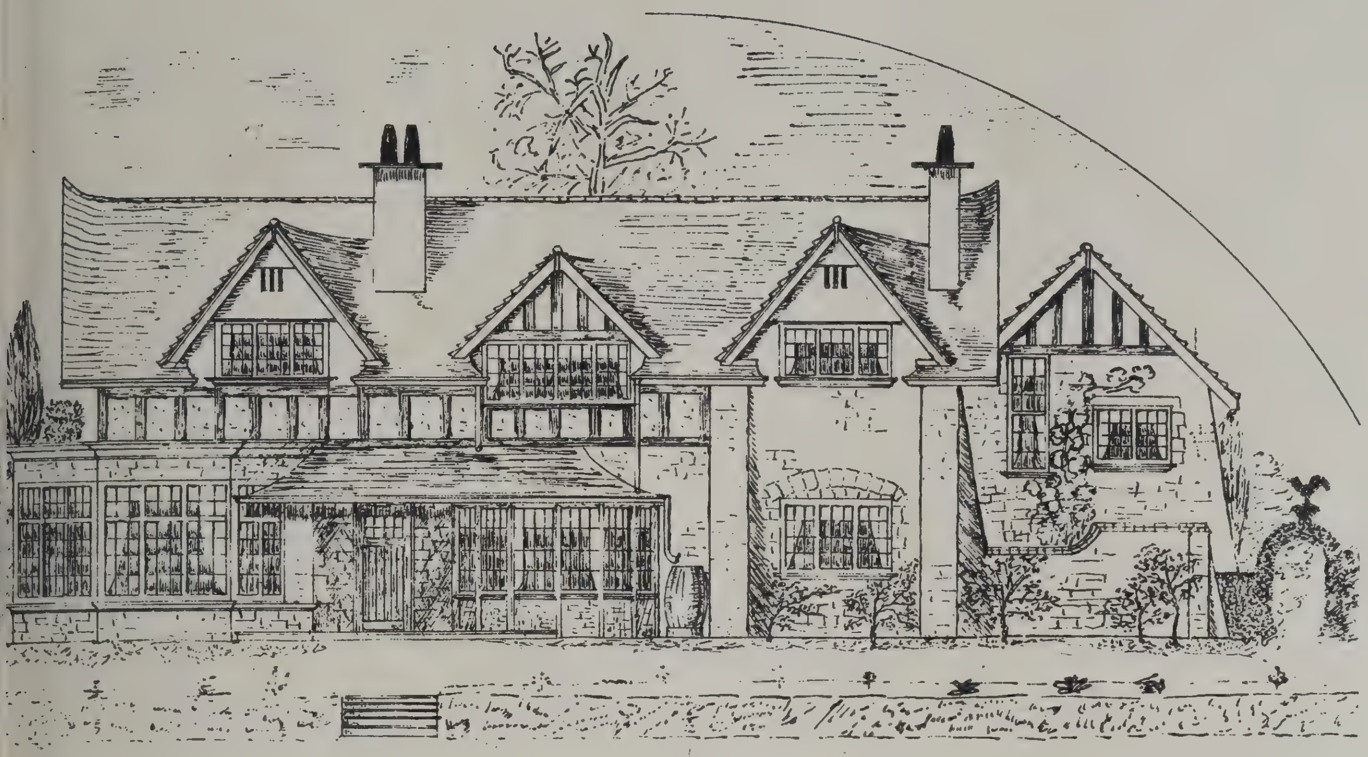


Elevation to Drive.

House, Sidb

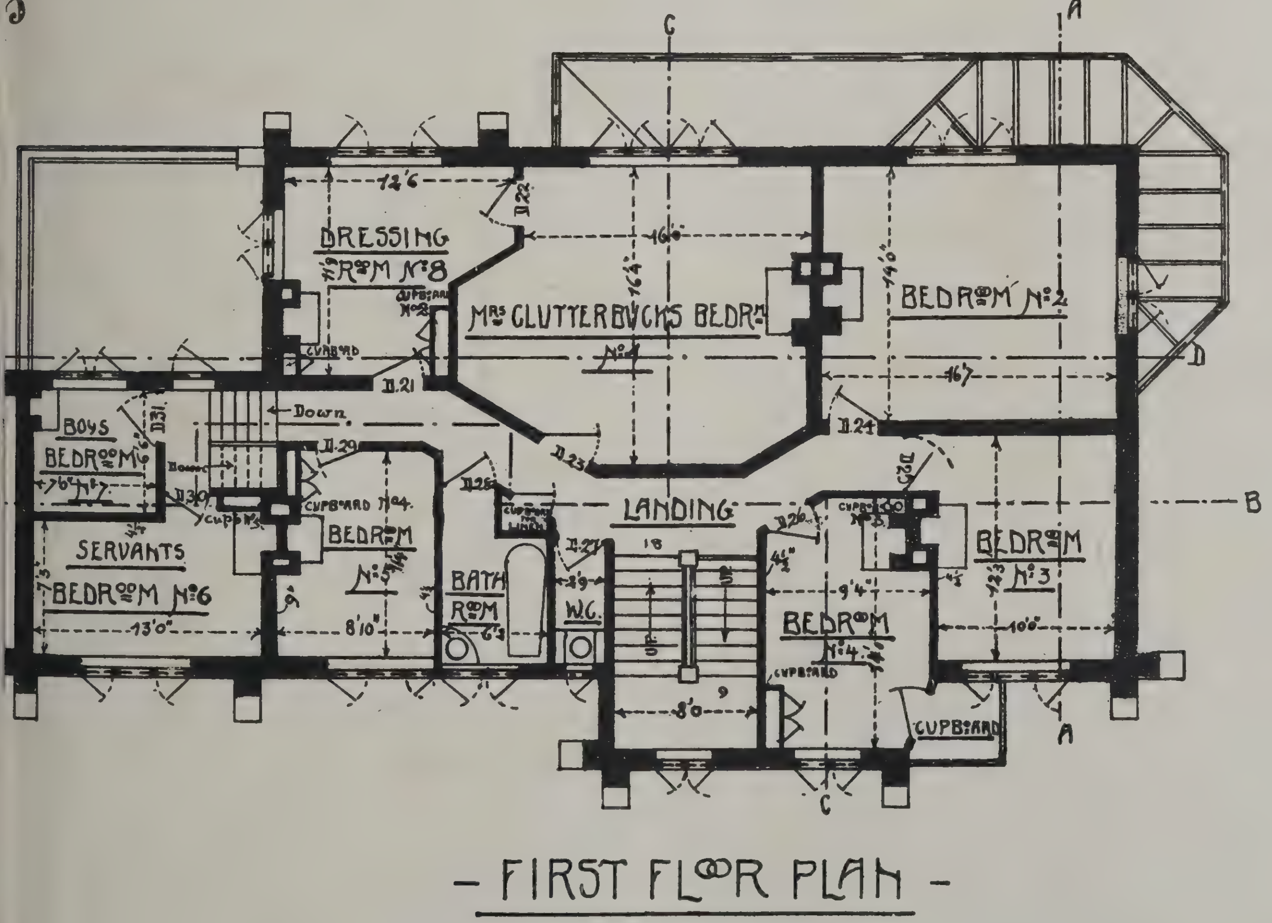


- GROUND FLOOR PLAN -



Elevation to Garden. Barrett & Driver Architects.

Bridgenorth



- FIRST FLOOR PLAN -

STANLEY — BARRETT AND DRIVER
ARCHITECTS
23. YORK PLACE BAKER STREET. W.

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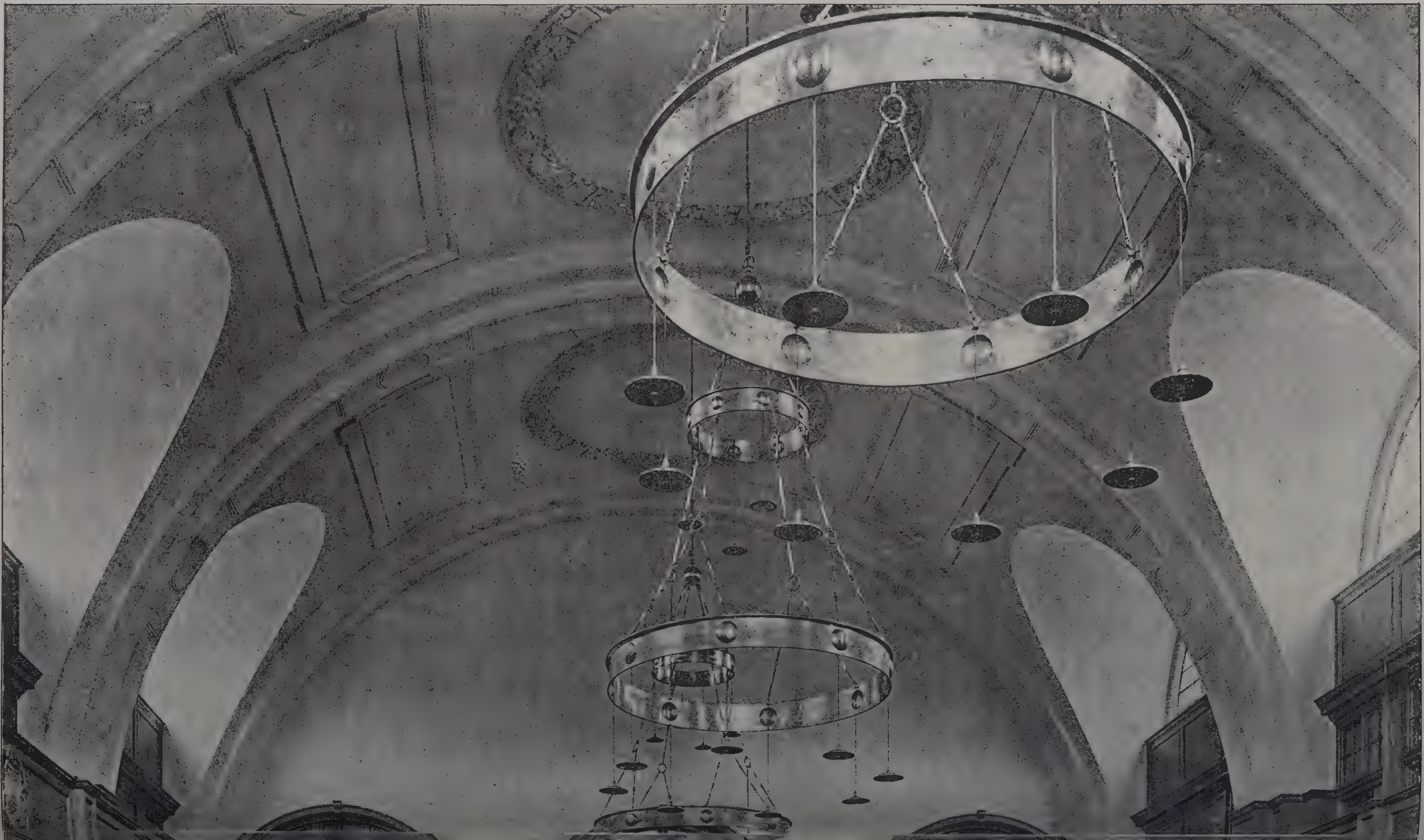

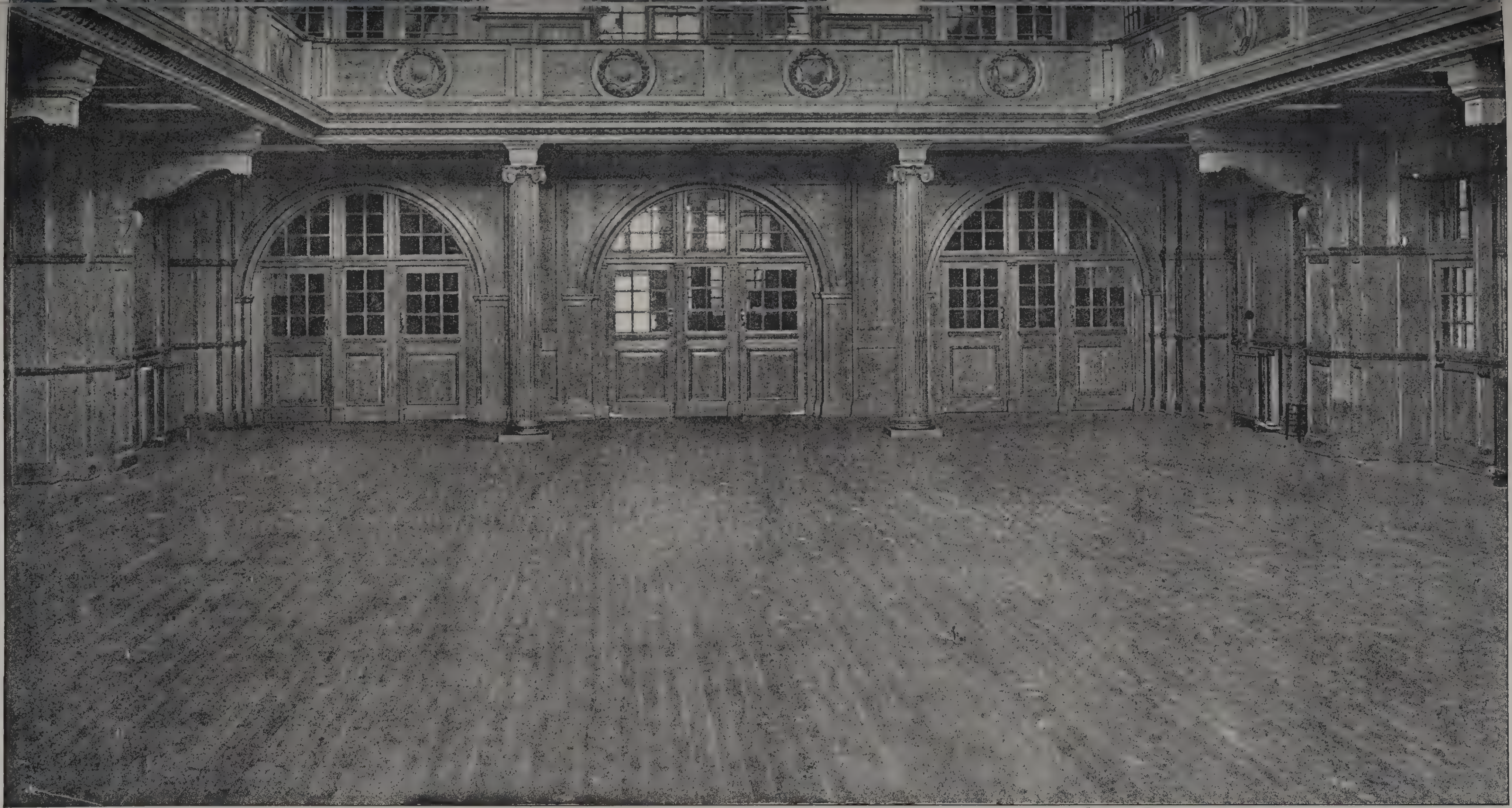

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ST. PAUL'S GIRLS' SCHOOL, BROOK GREEN: CENTRAL HALL.

GERALD C. HORSLEY, Architect.

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The Architect.

THE WEEK.

One of the most important cases relating to architectural practice was commenced to be heard at Maidstone on Monday. The plaintiffs are Messrs. Wise, builders, and the defendants are the asylum committee of Canterbury, with whom is joined their architect, Mr. Jennings. It is alleged that the architect refused to certify for work done, and in consequence a sum of more than 2,500*l.* is now due to them, the amount of the original contract having been 12,950*l.* They completed their work in March 1901, and considered they were then entitled to a certificate. Mr. Jennings stated that the work was not finished. They ordered their workmen to do all that was demanded, yet they allege they still were unable to obtain the final certificate. The plaintiffs state that they have been in business about thirty years. It is admitted that quarrels arose between them and the architect. The case is causing much interest among Kentish builders, and it was expected the hearing would have been commenced a fortnight ago.

The expense of keeping the main roads of Surrey in condition amounted last year to 55,299*l.* It is estimated that this year 56,070*l.* will be required. Three years ago the cost was 43,000*l.*, but owing to motors and traction engines the outlay has had to be increased. As there is a demand for materials the price of them is also being increased, and costly materials, such as ballast and granite, have to be used. The county surveyor, in his report, describes the action of the large tyres on the surface. With flint roads the tyres are said to draw the small metal to the surface, leaving the larger metal loose below, and covering the surface with a layer of sharp fine grit. After a shower of rain the damaged lengths often appear smooth and fair again, but the small metal is all on the surface, the larger metal below being still unwedged and loose, and the whole road is in such a condition that it rapidly wears, and makes much dust under ordinary traffic. On the macadamised lengths of road the action of the cars is different. On granite roads small hollows or depressions are quickly formed, and the tyres suck the softer material out of the depressions and rapidly accentuate the unevenness of the road, until the surface has to be scarified and remade. Attempts have been made on various roads in Surrey to obviate the dust nuisance. They chiefly consist of mixing tar with the road material before consolidating it, or spreading tar in some form upon the surface of the road. The county surveyor is, however, very doubtful whether any treatment with tar will prove successful on roads subject to traction engine and other very heavy traffic.

A case has been decided by Mr. Justice Grantham at the assizes in Leeds which suggests that one class of dwellings can be considered as if they were tenants' fixtures and therefore removable. A horse-dealer being desirous to have accommodation for horses near his house agreed with the Portable Buildings Company for eight loose horse-boxes. They were erected, but within a fortnight the dealer said he was unable to pay for them and asked for their removal. The sub-contractor who made the horse-boxes was ordered to remove them, but he offered them to the landlord for 87*l.* The latter refused to buy them or to allow of their removal. He considered they were attached to the soil, but if they were tenant's fixtures they should have been removed before the expiration of the tenancy. Evidence was given that the boxes rested by their own weight on loose bricks, and that there was no fastening by bolts or in any other way. The Judge decided that the boxes were removable and that the landlord must pay 100*l.* Conservatories are often made which a tenant can remove; and if such structures as horse-boxes, although possessing a certain amount of permanency, can be considered as chattels, there would seem to be no difficulty in constructing a kind of building having sufficient weight to resist storms, and which, from not being fixed in a legal sense, a tenant can remove.

There are many lovers of art in Paris who deplore the existence of the Pavillon de Flore as a survival of the Tuileries, and they wish it had vanished in flames like the remainder of the palace. Office accommodation is too limited in Paris to allow of the Pavillon being left empty or utilised as a museum. It has been demonstrated repeatedly that the conversion of the building into offices for the Minister of the Colonies has created a constant danger to the invaluable works of art which are in the Louvre. A great many times arrangements were made to liberate the Pavillon, but the difficulty is to find a building equally large for the officials. M. Clementel, the present Minister of the Colonies, has shown himself to be more amenable to public opinion than any of his predecessors. He is willing to emigrate if he only could discover a suitable habitation elsewhere. He has had the courage to appoint a commission to investigate the subject, and if an agreement can be arrived at between the Government and the Municipality the safety of the Louvre will be assured.

The centenaries of architects are of no account in England, for not even the Institute can recall those occasions. The Architects' Union of Berlin acts differently, for the members recall the births and deaths of German architects with as much loyalty as other unions show for painters, sculptors and poets. The latest instance relates to Heinrich Strick, who was born on July 20, 1805. To most men he is now forgotten, but there are several important buildings in Berlin which were designed by him. Among them are the churches of St. Peter and St. Andrew, a part of the palace of the Crown Prince, the Memorial of Victory, &c. He superintended the construction of the National Gallery, for which the plans were prepared by Stüler. Strick was one of Schinkel's pupils; he was among the professors in the Academy of Architecture as well as in the Academy of Art. He brought out books on Greek theatres, Mediæval and Renaissance brickwork in Italy, wall-painting in Rome in the fifteenth and sixteenth centuries. He was an energetic artist, and the Architects' Union were justified in endeavouring to keep his memory green.

In the armorial shield of the city of Paris the figure of an ancient sailing vessel is introduced, and it suggests the fitness of the motto, "Fluctuat nec mergitur." It might easily be imagined that the three-masted vessel recalled the early navigators who ascended the Seine. But M. Charles Sellier, the archæologist, puts forward a different origin for it. He has acquired a statuette which was found in the railway excavations beneath the Place de la Bastille. It is supposed to be a work of the third century, and to represent the Egyptian god Osiris. He concludes that where the church of Saint-Germain des Prés now stands there was a temple dedicated to Osiris, Isis and Horus. Isis, the sister of Osiris, was supposed to have visited Lutetia, and the ship which bore the goddess was called *Barris.* M. Sellier concludes that the name "Paris" was derived from Barris, and that the ship which continues to be represented stands for that renowned vessel. The explanation is hardly more imaginative than the legend which described the city as the foundation of Francus, the son of Hector of Troy, and who gave to it the name of his uncle Paris, the lover of Helen.

THE CLUNY MUSEUM, PARIS.

GOTHIC being no longer in fashion, English visitors to Paris have not of late bestowed much attention on the Musée de Cluny. They are seldom met in the rooms. Yet it is the most interesting museum of its class in Europe. Standing at the junction of the Boulevards Saint-Germain and Saint-Michel, it has a prominent position in the Quartier Latin. It is in the vicinity of several educational buildings, and, indeed, a more suitable site could not be discovered for the collection.

The history of the museum is remarkable. It owes its origin to a man whose name is rarely mentioned, viz. Alexandre Lenoir. He was a pupil of Doyen, the painter. When it was announced by the Constituent Assembly in 1790 that the property of the clergy was to be seized, he suggested to his master that as the religious houses contained pictures, statues, illuminated manuscripts and other works of art, all those valuable objects should be secured and delivered over to a national museum. Doyen adopted the suggestion and went at once to Bailly, the astronomer, who was president of the Assembly, and who was afterwards guillotined, but as compensation a statue of him has been erected within a short distance from the museum, of which he may be said to be the founder. The Assembly adopted the proposal which Bailly advocated, and a decree was at once issued ordering that the whole of the objects in monasteries and convents should be examined, and everything which possessed artistic merit was to be preserved. A Commission des Monuments was formed for the purpose. It was also decided that three houses in Paris belonging to Jesuits and other orders should be utilised to receive the treasures. Alexandre Lenoir was named as the first conservator.

His position was full of danger. He was enthusiastic about the ancient art of France, but that weakness might easily lead to his impeachment, for it could be interpreted as love of the feudal system. Then he failed to appreciate the indifference of the citizens who were employed to bring the objects. Little care was exercised in removing examples of ecclesiastical work especially, and Lenoir did not hesitate to denounce agents who were no more than official vandals. Fortunately, with all his earnestness he was endowed with tact. He not only saved his own life, but he was able to obtain authority for utilising the services of some of the prisoners of war who were then in France. He also contrived to persuade commanders to remove statues and examples of architecture in military waggons. Napoleon, although he cared little about the past, placed no obstacles before Lenoir, and at the fall of the Empire the storehouses were crowded with Mediæval remains.

During the Revolution Frenchmen had been endeavouring to pose as Greeks and Romans. In the Mediæval period they believed the tyranny from which they suffered had commenced. Lenoir was therefore opposing national prejudices at his own risk. When the reaction came he was no less obnoxious for removing examples of art from churches and monasteries; he had excited the ire of all lovers of the old *régime*. When the latter came into power on the accession of Louis XVIII. they were able to persuade the king to have all objects which were in a fitting condition restored to the representatives of the original owners. As it was natural that Louis should detest all Republican creations, he willingly agreed with his advisers. The consequence was that the storehouses were treated as if they were receptacles for stolen goods or places which were to be pillaged in an enemy's country. No system was exercised by the Royalist *déménageurs*, and we believe no satisfactory inventory was taken of what was removed. The people who were to claim the contents as representatives of the owners were expected to defray all the expenses of carriage. This made many of them hesitate, and there can be no means of discovering the number of objects which were lost. At last it was decided, in order to save the remnant, to send all the examples of Renaissance sculpture to the Louvre, while windows taken from various parish churches and woodwork were sent to the church of St. Denis. Other objects were deposited in yards and fields where from being exposed to the elements and neglected they mouldered away.

If the collection of the treasures is to be credited to Alexandre Lenoir, who was a painter, we must allow that Jacques Duban, the architect, had some share in their preservation. The monastery of the Petits Augustins was Lenoir's principal storehouse. When the antiquities were removed from it the Minister of the Interior proposed to convert the building into an Ecole des Beaux-Arts. The commission was given to Duban, who was assistant to Debret. He had more ground at his disposal than could be covered with buildings with the money allowed. He therefore determined to convert a part of it into an open court which would be adorned with the most suitable examples of Renaissance architecture and sculpture which Lenoir had collected. Although seventy years have elapsed since the arrangements were entered upon and demands for ground in order to enlarge the school have been made, yet the great gateway from the Château of Gaillon and other works of French artists remain, and give a peculiar piquancy to the Rue Buonaparte as well as to the school. Duban may be said to have convinced his countrymen of the greatness of the work which they had neglected and of its claims on preservation.

The next effort was to find a building where objects which would be destroyed in the open air might be housed. It was desirable that the building should have an ancient character. La Sainte-Chapelle, which was then very different in appearance from what it is now, seemed to be particularly suitable, for the chapel on the first floor would hold works on a small scale, while beneath it the sculpture and heavy woodwork could be exhibited. But some of the Government departments put in claims on the buildings which could not be resisted. Then it was proposed to utilise the refectory of the old abbey of Saint Martin des Champs, which we can now see as part of the Museum of Arts and Manufactures, but that also was official property, and would not be ceded.

While the lovers of Mediævalism were in a predicament, fearing that for want of a proper building valuable examples of art might be stolen or dispersed, by a curious coincidence a son of Alexandre Lenoir, who was an architect, exhibited in the Salon of 1833 a design for an archæological museum. He proposed to restore what was the hall of the Roman baths, known as the Thermes of Julian, and to combine it with the neighbouring Gothic mansion known as the Hôtel de Cluny. He suggested that the building could contain Celtic as well as Roman remains, with Gothic examples, and in that way the Hôtel de Cluny itself was made to appear as the climax of a long architectural period. It is needless to say the lovers of Gothic supported the project. Fortunately the owner of the building was an archæologist, and he had acquired an interesting collection of objects. He would no doubt have approved of his residence becoming a public building, but he died before he had made the arrangements. The Hôtel de Cluny and his collection were purchased by the State. M. Albert Lenoir realised partially the design which he had prepared. The Rue du Sommerard commemorates the name of the last private owner.

The Hôtel de Cluny had also its history. There was an abbey in that part of Paris for a long time, and in 1269 a college was started for young monks who were studying theology and philosophy. It might almost be considered as part of the University of Paris. About 1480 Jean de Bourbon, who was then abbot, began the erection of the hotel on a part of the site of the Roman baths. It was completed by his successor. But the abbots do not appear to have cared for it as a residence. Mary, who was the sister of Henry VIII. and the third wife of Louis XII., occupied it during widowhood. It was there James V. of Scotland was married to the daughter of Francis I. It had other royal tenants, but somehow from 1579 to 1584 it was held by a company of comedians. Afterwards it had private owners, and at length came into the possession of M. de Sommerard, from whose representatives the State purchased the house and collections for the small sum of 20,000*l.*

One advantage of the Cluny Museum is that its contents do not appear to be out of place. It is a Renaissance building, the designers of which showed partiality for the Gothic style. In the same way Renaissance objects appear side by side with Gothic objects without suggesting an extraordinary incongruity. Jacques of Amboise, who completed the building, would no doubt approve of the contents. The collection illustrates the life of Gothic and Renaissance times, and from it we can derive a better knowledge of the manners and customs of the people than is possible from histories. The glass cases supplement the information that is contained in annals, the difference being that we do not think of politics but of everyday life. If in the course of a few years it becomes necessary to disperse works of art which still survive in the cathedrals and churches of France, there is little doubt that a large share will be sent to enrich the Cluny Museum. There at least they are sure of preservation, and will aid in the education of Frenchmen.

NEW BOOKS.

At the present time cements are so much in use they may be said to be a supreme power in building. Concrete requires them, and the varieties of structures in which the material is employed are almost countless. In the treatise on "Calcareous Cements: their Nature, Manufacture and Uses," Messrs. Redgrave & Spackman (London: Charles Griffin & Co., Ltd.), carry out fully all that is suggested by the title of their book. It may be well to premise that the volume is not intended as a recommendation for selenitic cement, although that material is described in common with others. The history of the cement industry is given, and it is stated that the investigations of Smeaton paved the way for all modern improvements in the treatment of limes and cements. Since his time much has been accomplished. It is remarkable that Smeaton, like Aspdin at a later time, was not acquainted with chemistry. It is by no means certain that as yet the theory of cements is entirely revealed, although both French and German chemists have laboured towards that end. But there is no question that at the present day cements can be procured which are never likely to be surpassed in strength or durability. The treatise can be recommended as authoritative.

In construction, if there is a demand of any kind, it is quickly met by architects and contractors. There is now a probability that cheap cottages will be erected, and several books describing what can be done are available for landlords and amateur architects. Messrs. Cassell & Co., Ltd., for a shilling offer "Over two hundred plans, sections, elevations, details and specifications of dwellings actually built at costs ranging from 75*l.* to 300*l.* each and upwards." The majority appear to have been erected without any aid from an architect. Among the most interesting are concrete houses at Pevensey Bay, of which Mr. P. T. Harrison is the architect. Some municipal cottages are also shown. "Country Cottages: how to Build, Buy and Fit them up," by "Home Counties" (W. Heinemann), comes nearer to a complete manual, although the author professes that he does not pretend to the technical knowledge of either an architect or builder. But several architects have contributed explanations, and the book is therefore not entirely of an amateur character. The prices of the cottages vary from 95*l.* to 1,200*l.* "Modern Homesteads," by Mr. Samuel Taylor, F.S.I. (the Land Agents' Record, Ltd.), is "based on the accumulated experience of forty years' active connection with agriculture, management of landed property and the designing and restoration of all classes of buildings incidental thereto." The illustrations may not be of the kind which attracts amateurs, but they will be useful to those who propose to erect farm buildings, and young architects who may be called on to design such work will find it an honest guide. Mr. Taylor is not carried away by the craze for building cottages at a rate which can bring no profit to the builders, and he does not defy local by-laws. He says:—"Before starting to build anywhere, it is desirable to secure a copy of the by-laws of the local authority so as to avoid unnecessary errors and friction; if this is done there will seldom be much difficulty. I have carried out work in thirty to forty rural and urban councils' districts, and have never yet had a case of real difficulty." Everyone knows that most of the instances to which unnecessary importance has been attached concerning by-laws have been inspired by amateurs who wished to pose as champions of liberty.

A small book by Mr. Ernest H. Essex, C.E., entitled "Roofs and Floors of New Buildings: their Structure and Stability" (London: the St. Bride's Press, Ltd.), should help to convince people that the by-laws are not always unreasonable. Mr. Essex calculates the strength required according to the ordinary formulæ in rafters, joists, floor beams, &c., and then he compares the results with those of the model by-laws. In the majority of cases it will be found that the latter are lenient. In the minority of cases, however, the by-laws are too exacting. Mr. Essex remarks that "for short lengths of joists carried by the trimmer the clauses of the model series are much too stringent, whereas for long lengths of joists carried they are frequently quite inadequate in practice; and this is to be deplored because the cases of short joists carried occur more frequently in ordinary cottage property, the expense for construction of which should be kept as low as possible, and the cases of longer joists carried occur mostly in larger domestic buildings and buildings of the warehouse class, where adequate strength is of the utmost importance."

The books on concrete and steel are usually of large size. In his "Concrete-steel: a Treatise on the Theory and Practice of Reinforced Concrete Construction" (London: Whittaker & Co.), Mr. W. Noble Twelvetrees gives a handy volume which contains as much information on the subject as the average architect is likely to require. With such a subject there are not many English authorities, and it is inevitable that French, German and American data should be employed for all that relates to concrete, however, concerning steel-work, there are many English authorities.

Treatises on mechanics are usually the work of mathematicians who are not practised in applications of the science. "The Elements of Mechanics," by Professor Merriman, of Lehigh University, U.S.A. (London: Chapman & Hall), is directed mainly to practice, or, it would be more correct to say, to business. Every sub-chapter has special problems, which the reader is expected to work out, and in doing so it is recommended that the actual forces and bodies should be always kept in mind. The book is one of a series by the author, and should be as useful in England as it has been found in America.

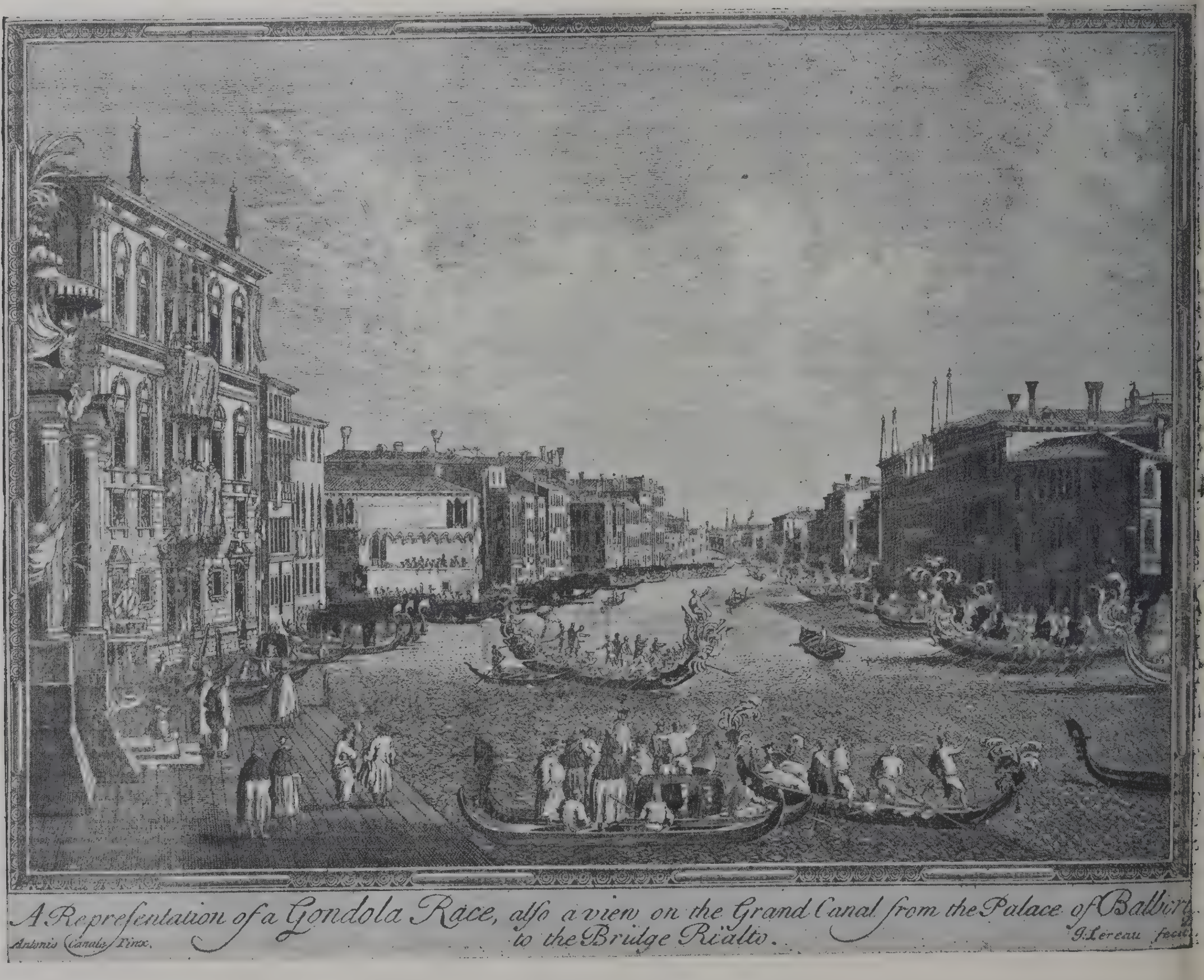
Much has been said for and against the Plenum system of ventilation. Mr. Harold Griffiths, architect, is an advocate of it, and his book, "The Plenum or Propulsion System of Heating and Ventilation" (London: Simpkin, Marshall & Co., Ltd.), explains how it can be introduced in the way that is best adapted to insure its efficiency. He admits that there are modifications which do not tend towards its perfection, and he advises consultation with a ventilation expert. The system also requires looking after, for the attendants are often careless and ignorant. The aim of the author is "to bridge the gap between expert knowledge and no knowledge at all, which exists in the literature relating to this important branch of sanitation."

Mr. Batsford is fortunate in being so often able to bring out new editions of his technical books. Messrs. Fletcher's "Arbitrations" and "Valuations and Compensations" have each reached a third edition. A second edition of Mr. Leaning's "Conduct of Building Work" is now in circulation. One of the recent publications is a treatise on "Scaffolding," by Mr. A. G. H. Thatcher, building surveyor. The Workmen's Compensation Act, gantries, derricks, &c., have made it compulsory to employ scaffolds which are scientific in proportion and design. The old empiricism may be considered as almost vanished, for ordinary workmen often refuse to work on platforms which at one time would inspire no fear. Mr. Thatcher has treated the subject fully, and no builder who undertakes important works should be without a copy of the book. Another useful volume, but of a different class, treats of "The Principles of Design," and is by Mr. G. W. Rhead. The primary object is to aid students who are eager to comply with the conditions of the new syllabus of the Board of Education. Archbishop Whately believed that for elementary books writers whose knowledge was limited were to be preferred. Mr. Rhead has a claim to be considered a master among designers, and he must feel he is fettered by his task, but the suggestions he offers are invaluable. The book abounds in illustrations which are so firmly drawn they will serve as models.

CANALETTO'S VIEWS OF VENICE.—II.

In modern times we are made acquainted with motor races on roads, but they have to be held under special conditions. The great high road of Venice was always the Grand Canal, and on certain occasions gondola races were arranged along it and caused far more excitement than any modern boat-race on the Thames. It is well to remember that at the time when Canaletto painted and drew Venetian scenes there were said to be 60,000 persons who gained a living by the gondolas. There were factions or parties among the rowers, and a race allowed an opportunity for extraordinary enthusiasm among competitors and their backers. On such occasions Venice looked its best, because the owners or occupants of palaces and residences on both sides of the canal displayed rich tapestries from their balconies and windows. There was enough colour presented to delight artists. The invention of the Venetians on those occasions was exercised by the adoption of fantastic forms as additions to the vessels as well as for the costumes of the oarsmen. A favourite arrangement was a series of umbrellas which might have been designed from representations by the Chinese. Instead of the familiar beaks with their iron teeth, forms that seem to be derived from feathers were substituted. Both for the safety of the passengers and in order to indicate that Venice was a Republic with all men on an equality, the gondolas had generally to be of a black colour, *i.e.* if what is a negation of all colour can be called one. But on regatta days it was allowable to adopt a variety of colours, and even rich tapestries might be employed as on houses.

As a Venetian, Antonio Canale must have rejoiced



A Repreſentation of a Gondola Race, alſo a view on the Grand Canal from the Palace of Balbi to the Bridge Rialto.

Antonio Canale Pinx. J. Lereau fecit

in such spectacles, and hence we suppose it was that after rendering homage to the Republic by presenting a view of the Doge's palace and the neighbouring buildings he lost no time in recording the scene which afforded pleasure to natives as well as foreigners. When a foreign prince visited Venice the Senate paid him the honour of a special regatta, and Europe could not offer a more noteworthy spectacle. It had too the advantage of suggesting hospitality, although the Venetians were remarkable for the absence of that virtue.

Canaletto shows the straightest of the reaches on the canal, which was better adapted than the others for the purpose of a regatta. We see that the course was kept fairly clear, for the ornamental boat which lies across the canal probably contains the judges. The boats used for racing differ in form from the ordinary gondolas, some of which are to be seen near the palaces, and which correspond with Byron's description :—

> Didst ever see a gondola ? For fear
>   You should not, I'll describe it you exactly :
> 'Tis a long cover'd boat that's common here,
>   Carved at the prow, built lightly, but compactly,
> Row'd by two rowers, each call'd "gondolier,"
>   It glides along the water looking blackly,
> Just like a coffin clapt in a canoe,
> Where none can make out what you say or do.

WALLINGFORD.*

Wallingford, as you are no doubt aware, is a place of very considerable interest, although it can show no very striking relics of its former importance. The earthworks are its most characteristic features. I am not going to talk about Calleva of the Atrebates. A strong conviction that it is Wallingford prevails among those who live within the earthworks ; but I have not that advantage, and therefore I can give you no name for Wallingford older than the Saxon one which it now bears. But that name, I think, embodies an important fact, for I am not aware that its accepted meaning is disputed. Wallingford is no doubt the ford of the Wallingas, the sons of the Walla or Welshman. And when the Saxons gave it this designation, it must have been in view of the fact that this was the crossing of a very important highway of the Britons. There were plenty of fords above and below, but this was emphatically the Wallingas Ford. There is sufficient evidence that the place was occupied by the Romans. The streets at the present day show the Roman plan, though the paucity of Roman relics might alone prove that it was not a station of importance. Perhaps I get upon disputable ground if I mention the opinion that Wallingford is closely connected with the opening scenes of Aulus Plautius's invasion, but at any rate strong arguments are alleged for the belief that the invaders landed in the south-west of our island and came up the Severn and down the Thames, that they gained their great victory over Caractacus above Dorchester, that their camp for the protection of the Dobuni was planted on Sinodun Hill across the river, that the Catuvellauni fled down the river on this northern side and crossed at Wallingford in the hope of escaping homeward along the Chiltern Hills, and that the Romans came upon them unexpectedly on the northern side of the river and cut off their retreat at Crowmarsh. If all this is so, it would seem to follow that a garrison must have been stationed at this ford from the very beginning of the Roman occupation. When we come to the Saxon Conquest we find that at the middle of the sixth century the West Saxons had gained victories on the Wiltshire Downs and at Wimbledon, and thus had secured the whole district south of the Thames. The Chronicle goes on to tell that in 571 they advanced northward and gained a victory at Bedford which put all the district west of the Chilterns into their power, Bensington, opposite Wallingford, being the southernmost of the four towns that are named. It is assumed by historians that they must have crossed the river at Wallingford.

The next great event is the conversion of the English to Christianity, and in the history of that event the district close beside Wallingford is in some respects the most conspicuous in England. Augustine had come to Canterbury nearly forty years before, and the Kentish men had become Christians, but the new faith had made but little progress beyond them. St. Berin or Birinus came in 635, and soon after his landing he penetrated as far as Dorchester. King Cynegils of Wessex brought his daughter Cyneburga to be married here to Oswald the Christian king of Northumbria, and under the influence of the missionary and the Northumbrian king the old Saxon warrior-king accepted the faith and his people followed him. The supreme importance of the event lies in the fact that Cynegils was the head of that royal house which was to become at last the royal house of England, and the beautiful abbey marks the spot where the king and his sons were baptized.

Returning to the subject of the Saxon Conquest, you will not wish me to go into a detailed account of the fluctuation of the border-line of the West Saxon and the Mercian kingdoms as it affected the Wallingford district. It will be sufficient to recall the fact that as early as 661 (the chronicler tells us) "Wulfhere, the son of Penda, laid the country waste as far as Ashdown," *i.e.* the line of the Berkshire Downs ; but this was evidently no more than a temporary raid. It was in 777 that Offa defeated Cynewulf of Wessex at Bensington, and the whole district as far as the downs was finally added to the Mercian kingdom, and remained so for fifty years. A century later, in 871, the Danes made their first great incursion into the centre of the land, and Alfred made his first appearance in our history. He, with his brother King Ethelred, fought the Danes and defeated them utterly at Ashdown. The best modern historians are agreed, I believe, that the scene of the battle was above Cholsey, the whole line of the downs being then known as Ashdown.

We read the name of Wallingford for the first time on the coins of Athelstan, the grandson of Alfred, who reigned from 925 to 941, and the royal mint continued here till Henry III.'s reign. But the first actual mention of the town in history is in 1006, at the time of the Danish invasion under Sweyn. Some eleventh-century editions of the Chronicle tell us that the Danes at midwinter "went through Hampshire into Berkshire to Reading, and there they did their old wont, they lighted their war beacons wherever they went ; then went they to Wealingaford and they burnt it all."

From the Domesday Survey we learn that in the time of Edward the Confessor 14 acres at Wallingford belonged to the king, and were occupied by a company of his house-carles. It would appear that these house-carles were under the command of the Saxon thegn Wigod, a cousin of the king, holding the high office of cup-bearer. It is here that Wallingford comes into the forefront of English history. Wigod supported the claims of William the Norman to the throne, and when the Conqueror, after the battle of Hastings, marched towards London and found that he would be opposed at Southwark, he turned aside to avoid another battle and came to Wallingford. Here he received Archbishop Stigand and the other nobles who came to do homage, and he remained here for the marriage of Wigod's daughter and heiress with Robert d'Oyley, one of his Norman chieftains, and he directed him to build a strong castle, which was completed in 1071, eight dwellings being destroyed to make room for it. For the history of the castle it is not possible in a brief space to do more than mention the leading events : the marriage of d'Oyley's daughter and heiress Matilda with Milo Crispin, one of the richest landowners of the Domesday Survey ; her second husband, Brien Fitzcourt, defending the castle for the Empress Maud, the daughter of King Henry Beauclerc ; the famous escape of the empress from Oxford Castle when she came hither from Abingdon after her flight along the frozen river ; the memorable treaty of Wallingford, by which the Crown was secured to Stephen for his life, and Henry Plantagenet, the empress's son, was to succeed him, and so the Civil War was ended ; the first Parliament of Henry II. held here in 1155, when he granted the town its charter ; the seizure of the castle by Prince John, one of his first acts of treachery against his brother Richard Cœur de Lion, who had left it in the custody of the Archbishop of Rouen and had gone to the Holy Land ; the magnificent state maintained here by Richard king of the Romans, the brother of Henry III., who built the great hall of the castle and also built the oldest parts which remain of Wallingford Bridge ; then the stirring events of the Barons' wars, when Simon de Montfort seized the castle during the absence of the King of the Romans in Germany ;

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* A paper by the Rev. J. E. Field, read before the members of the British Archæological Association, and published in the *Reading Mercury*,

the imprisonment here of the two kings and the royal princes after the defeat of the royal party at Lewes in 1264, and the escape of Prince Edward while he was being conveyed to Kenilworth, followed by his victory over the barons at Evesham; then the tenure of Edmund Earl of Cornwall, Richard's son, who appears to have refounded the collegiate church of St. Nicholas, of which the ruins survive; the marriage of Earl Edmund's widow with Piers de Gaveston and the prominent part which the castle bore in the miseries of Edward II.'s reign; then happier scenes when it was the favourite home of Edward the Black Prince and of his widow Joan of Kent; then the change which made it merely a military fortress and no longer a royal residence; yet royalty occupying it from time to time, as when Isabella de Valois, affianced to Richard II., was protected here during Bolingbroke's invasion, and when the baby King Henry VI. spent much of his childhood here; the marriage of Catherine the Queen mother with Owen Tudor, which is said to have been solemnised secretly in a dungeon here where he was a prisoner; the captivity of Queen Margaret of Anjou here under the custody of the Duchess of Suffolk; then, passing over minor events, the defence of the castle for King Charles during a memorable siege which lasted upwards of nine weeks, holding out when every other fortress in the central parts of England had yielded, and only the remote Raglan on the Welsh border and Pendennis, in Cornwall, remained; then the surrender to Fairfax, July 27, 1646, when provisions had failed and all supply was cut off, and the garrison was allowed to march out as if they were victors with flying colours; lastly, six years later, the demolition of the buildings by order of Parliament, and nothing left but two small fragments of the outer walls. I think this rapid summary is sufficient to show how very prominent a part Wallingford Castle bore for 600 years in the history of England.

Passing on to other subjects, let me mention, as one of special interest, the beautiful ivory seal, now in the British Museum, which was found nearly thirty years ago close to the market-place at Wallingford, engraved with the name and effigy of Earl Godwin, and on the reverse with those of Godgytha the nun. I must remind you that Edward the Confessor had large possessions in Wallingford, that Earl Godwin was his father-in-law, and that Gytha, Godwin's widow, devoted herself after his death to religious work. She is represented here holding a book and raising her hand as if in exhortation. All the facts, taken together, suggest the conclusion that she must have presided over a religious house of women in Wallingford.

I can only attempt to give a few brief notes about the numerous churches. Including all the parish churches and chapels and others that were not parochial, there were as many as fifteen at the close of the thirteenth century, and all the sites are known. St. Mary the More, at the top of the market-place, probably represents the church of the Roman-British town. St. Leonard's, if the arguments of so high an authority as Mr. Park Harrison are sound, is of the tenth century, and a very fine example. St. Martin's, near the central crossing, was also very probably of Saxon date. Domesday Book mentions one church here, belonging to the Bishop's manor of Sonning, but I am not aware of any facts by which it can be identified. Robert d'Oyley, the builder of the castle, is probably responsible for several of the churches also. He founded the one monastic house of the town, the Benedictine priory of the Holy Trinity, a cell of St. Albans, which gave to the abbey more than one of its famous and learned abbots. He probably built St. Peter's, on a tumulus beside the ford, at the east gate—the third of the churches now existing, but rebuilt in the eighteenth century and enlarged this year—and he probably built also the chapel of St. Peter in the West at the west gate, and also All Hallows near the north gate and adjoining to the barbican of the castle. Milo Crispin, his son-in-law, is said to have built the collegiate church of St. Nicholas in the castle.

At the south gate was a church bearing the unusual dedication of St. Rumbold, who was the local saint of Buckingham, and I would hazard the conjecture that it may have been founded by Walter Gifford, the Earl of Buckingham, who owned property at Wallingford in Domesday. Then there was the hospital of St. John Baptist, founded at an early date and enriched by Simon de Montfort. There was the bridge chapel, called the Mary Grace, probably built by Richard, king of the Romans. There were also three other parish churches, besides the chapel of St. Lucian outside the south gate. But the Black Death of 1349 wrought terrible ravages here, and in the early part of the next century the high road to the West was diverted to enter Berkshire at Abingdon instead of Wallingford, and the effect of these events upon the town is illustrated by the fact that seven of the churches disappear entirely before the end of the fifteenth century. In the sixteenth century the priory, of course, was dissolved; the collegiate church and the hospital went the same way. At the siege in 1643 the bridge chapel and All Hallows Church were destroyed. Three churches still survive.

The bridge is an object of more than ordinary interest. Its twenty arches include four of the massive ribbed arches of the thirteenth century built by Richard, king of the Romans, and several rebuilt with Norman work from the priory church in 1530, and three which were taken out when drawbridges were substituted at the siege and which were rebuilt in brick in 1750, and, lastly, three which were made entirely new when they had been ruined by a flood in 1809, and when the whole length of the bridge was widened.

I must do no more than enumerate some famous names that the town can claim as her own:—John of Wallingford, the chronicler of the twelfth century, and Richard of Wallingford, the mathematician and astronomer of the fourteenth century, both abbots of St. Albans; Sir William Knollys, constable of the castle, who was created Viscount Wallingford by James I. and Earl of Banbury by Charles I.; and, lastly, Sir William Blackstone, the commentator on the laws of England, in the latter part of the eighteenth century.

I will conclude by mentioning that Wallingford was made a royal borough by King Edward the Confessor; that its charter was granted by King Henry II. in 1155, from which time its mayoralty began, thirty-four years before that of London; and that the question of which is the oldest municipality in the kingdom is disputed between Wallingford and Winchester.

WORKS IN DAMASCUS.

THE British Consul at Damascus (Mr. W. S. Richards) reports that although no public works were carried out during the past year, yet two, not to say three, schemes of very great public utility were almost continuously under consideration throughout that period; the first, and in one sense the most feasible, having reached the stage of being reported on in detail by a competent foreign engineer. This refers to a project for supplying the city with a good and abundant supply of drinking water from the Ain Fiji source of the Barada river, which, it has been calculated by the engineer in question, will cost 36,260*l*. The other scheme referred to is a combined electric lighting and tramway system, which, strange as it may seem to those who know Damascus, is now under serious consideration with a view to its realisation. The possibilities of this enterprise too have been studied on the spot by a competent Belgian engineer, whose report, which so far as one can learn is on the whole distinctly favourable, has been sent to Constantinople.

TESSERÆ.

The Origin of Lithography.

LITHOGRAPHY, in common with many of the most important inventions in every branch of the arts, owes its origin to an accident arising from the necessitous circumstances of the inventor. Aloys Senefelder, an actor at one of the theatres at Munich, was the individual who was thus enabled to immortalise his name as the inventor of an art. Senefelder's histrionic pursuits do not appear to have been a source of any material profit to him, for he describes himself as being in a state of great pecuniary distress. In the year 1792 he added the title of author to that of actor, by publishing a tragedy which, from the delay in getting it printed in time for the Leipsic fair, produced little or nothing more than the expenses. This circumstance induced the desire to be the printer of his own productions; but his means being too limited to admit of his purchasing a press and other necessary materials, he had recourse to a variety of expedients to supply the deficiency; and amongst others, that of etching his writings on copper-plates. While so engaged, he was induced to make several experiments in the composition of ink or other writing materials best adapted for correcting any mistakes he might make in his writing on the copper, the result of which was the adoption of a composition of wax, soap and lampblack. This appeared for some time to promise success; but the expense of the copper-plates was a serious objection to Senefelder, who was as yet only practising the art of writing in inverted characters on copper, preparatory to the application of his plan to the publication of his works. It occurred to him that he might perhaps be able to use a flat piece of Kellheim stone, which he had procured for the purpose of grinding his colours, with as good effect for this practice as the copper; and having discovered a method of cleaning off the writing from the stone when done with, he availed himself of the stone as a substitute for copper-plates, without, however, contemplating the possibility of taking impressions from it, or of its application to any other purpose than that of a substitute for copper on which to practise inverted writing. It chanced, however, that he was one day applied to by his mother to make out a list of clothes for the laundress; neither ink nor paper was at hand, but the piece of stone had just been polished from the last writing, and had not been covered with the varnish preparatory to a new one, and in the hurry of the moment he dipped a pen into his composition ink and wrote the required list on the stone, intending to copy it off at his leisure. When, however, he prepared to do so some hours afterwards the writing appeared so firm and good on the stone that it occurred to him to try what effect would be produced by biting-in the stone with aquafortis and taking an impression from it. He did so, and found to his surprise and joy that at the expiration of five minutes the stone was eaten in to the depth of a one-hundred-and-twentieth part of an inch, and the writing consequently elevated in an equal degree. He then applied his composition printing-ink to the writing, and with much less force than was requisite to take off an impression from the copper obtained a perfect reversed impression of his writing. Thus he perceived that this Kellheim stone possessed an inherent property of imbibing and retaining grease so as to admit of an impression being taken of anything written with such materials after the writing had been rendered prominent by the other parts of the stone being eaten away with aquafortis. From the discovery of this property proceeded the invention of lithography. The first efforts of Senefelder to improve upon his new discovery were as laborious as they were inefficient, but by dint of that ardent and unconquerable perseverance which was the leading characteristic of his mind he at length attained his long-sought object, that of tracing characters in his composition-ink upon the stone and taking perfect impressions of them.

Saw-Mills in England.

When attempts were made to introduce saw-mills in England they were violently opposed, because it was apprehended that the sawyers would be deprived by them of their means of getting a subsistence. For this reason it was found necessary to abandon a saw-mill erected by a Dutchman near London in 1663; and in the year 1700, when one Houghton laid before the nation the advantages of such a mill, he expressed his apprehension that it might excite the rage of the populace. What he dreaded was actually the case in 1767 or 1768, when an opulent timber merchant, by the desire and approbation of the Society of Arts, caused a saw-mill, driven by wind, to be erected at Limehouse under the direction of James Stansfield, who had learned in Holland and Norway the art of constructing and managing machines of that kind. A mob assembled and pulled the mill to pieces; but the damage was made good by the nation, and some of the rioters were punished. A new mill was afterwards erected, which was suffered to work without molestation, and which gave occasion to the erection of others. It appears, however, that this was not the only mill of the kind then in Britain, for one driven also by wind was built at Leith some years earlier.

"Henri Deux" Ware.

The rarity of the Henri Deux ware at the present day has doubtless had a great share in inducing its extraordinary value, and yet when it is considered that upwards of fifty of these fragile pots have come down to us through the chances and changes of three centuries, all apparently from the hand of the artist himself, their number even is surprising, and is at least an evidence that the producer must have been a most industrious worker. To all appearance the art died with its author, or was continued only for a brief period after his time, the inherent difficulties attending the production of the ware being probably too great to allow of any remunerative result to the mere industrialists of the day, even had they been capable of continuing the complex and difficult technical processes of the master. Lastly, somewhat of historical or romantic interest attaches to it from the fact that, like the Sèvres porcelain of the age of Louis XV. and XVI., it was apparently the "poterie de luxe" of the brilliant courts of Francis I. and Henri Deux, as evidenced by the ciphers, armorial bearings, &c., which occur in so many specimens. The theories respecting the origin of this ware have hitherto for the most part been of a rather crude and unsatisfactory kind; one, which has been often repeated in spite of its obvious want of verisimilitude, and which, at the same time, in the most gratuitous way, transferred from a Frenchman to an Italian the glory of having produced this pottery, was that it was the work of Girolamo della Robbia, who settled in France during the first half of the sixteenth century. This supposition was entertained by the occurrence of the letter G, supposed to be the initial of the Florentine artist. This theory, however, scarcely deserves notice; the pottery itself has no analogy with any of the products of the Della Robbia family; it has a distinct non-Italian character and, on the contrary, a most characteristic and typical French Renaissance one, of itself quite sufficient to decide the point of the nationality of the artist.

Chiaroscuro in Mediæval Glass.

With the general effect of chiaroscuro, or the more detailed niceties of light and shade, our early artists were almost wholly unacquainted; and they endeavoured therefore to supply the want of these by the use of strong outline and by a brilliant opposition of colours. Thus in the representation of niches, canopies, &c., so frequently borrowed from architecture, we find very sparing attempts at shadow, the whole object being usually boldly outlined in black and white, backed, it may be, by a bright ruby or azure ground; and, if further distinction of parts be wanted, it is gained by the substitution of various tints for some of the white or colourless. In the execution of the human figure, where the same minuteness of parts was not to be found, a more free use of shade in the features, limbs and draperies was unavoidable; yet this without any approach to the finished effects of modern art. This deficiency of course had a tendency to make colouring the great object of display, the brilliancy of which was further enhanced by the constant use of ground tints or carpetings, exhibiting rich diapers of foliage or of tracery, sometimes brought out on any colour by a darker shade of the same, and sometimes produced by blackening the piece of stained glass, and then removing the black in the required forms for the original tint to show through. To this we may add that a glittering effect of colour was promoted, not only by the endless variety of heraldical achievements, but also by the circumstance of the ignorance of our old artists as to the means of using two distinct colours in conjunction on the same piece of glass; a limitation that obliged them, in sustaining the variety of their subjects, to add to their intricacy by making them masses of reticulated leadwork, the bands of which had the same effect as a distinct outline for subdivision and contrast.

Old London Bridge.

According to Stowe, Peter of Colechurch not only repaired the Old London Bridge, but in 1163 erected a new one of elm timber. He also in 1176 commenced a stone bridge, which was such an ornament as the Thames had never before witnessed; it took thirty-six years to complete, but the architect died in 1205, and was buried in a tomb which he had erected for himself in the middle of the under chapel in the centre pier of the bridge, which chapel was also built by him and dedicated to St. Thomas à Becket. It was a beautiful Gothic structure, 65 feet long, 25 feet broad and 40 feet high; it consisted of two storeys. The upper chapel was an elegant structure supported by fourteen clustered columns, &c. On the decease of Peter of Colechurch a letter was written by king John, on the advice of Hubert, Bishop of Canterbury, to the mayor and citizens of London, and recommending to them a new architect, Isenbert, master of a school at Xainctes, an architect of great learning, who had lately built the bridges of Rochelle and Xainctes, near Bordeaux, in France, to finish building that of London. It is, however, by no means clear, notwithstanding the royal writ, that Isenbert was employed for this purpose, for we are told by Stowe that the arches, chapel and stone bridge over the Thames, London, were in 1209 finished by the worthy merchants of London—Serle Mercer, William Almaine and Benedict Botewrite, principal masters of that work.

NOTES AND COMMENTS.

Although no immediate action was taken with respect to the report of the committee on the administration of the Chantrey Bequest, it must not be presumed that so important a document is to be neglected. A communication from the Royal Academy has been received. The Academicians express themselves as anxious to meet the suggestions, and for that purpose the Government intend to allow them a reasonable time. Lord Carlyle, who brought the subject before the House of Lords this week, considered the Government had a remedy if they allowed the trustees of the National Gallery to exercise some discrimination before the works were accepted for the Tate Gallery. The Academicians were criticised because they expended the money available every year in purchases, instead of allowing it to accumulate for five years, if necessary, in order to obtain a possible masterpiece. Chantrey was an artist, and had some sympathy with men like himself who had to suffer before their works were valued by the public. At the present time he would not be likely to approve of the hoarding of the funds for an uncertainty. Artists must not suffer by the deprivation of money to which they are entitled in order to enrich a gallery with a work which may be temporarily admired by a few.

Barrington Court, in Somerset, which the National Trust propose to purchase, is a typical Tudor building, and as such has been selected by Mr. J. A. Gotch for representation in his book on "Early Renaissance Architecture in England." He describes it as having examples of the usual Tudor windows as well as the twisted finials of which the early sixteenth century was so fond. It is believed the mansion was erected by Lord Daubeney, and probably about the middle of the sixteenth century. The exterior is in a tolerably sound condition, but the inside stands in need of reparation. The property can be acquired, including over 200 acres, for 10,500*l*. A sum of 10,000*l*. has been already given, and the balance is, therefore, comparatively a small amount. If the building stood near a town there would be no difficulty in obtaining the money.

An action which was tried at the Kent Summer Assizes before Mr. Justice Bray indicates the risks which directors must expect to meet when they take a prominent part in giving orders to contractors. Up to 1903 there was a company known as the Westgate-on-Sea Hotel Company, Ltd. Mr. Alfred Dyke, a builder of the same pleasant watering-place, carried out sanitary and other improvements at one of the hotels. Soon afterwards the company was wound up, leaving his debt unpaid. He received, it appears, his orders from Sir William Ingram, Bart., and claimed 883*l*. from him. There was no doubt defendant was a director of the company, and he was also a debenture-holder. When the claim was made he repudiated his liability, for whatever he did was on behalf of the company. The jury, however, found for the plaintiff for the full amount. Too much zeal is sometimes made expensive to an individual.

Seventeen years ago a Society of Art Masters was founded. The number of members is now 260. The annual meeting was held this week with Mr. Frederick Marriott as chairman. The object of the Society was to uphold the interests of the members, for the South Kensington authorities were found to be rather opposed to the claims of the masters. There are still grievances. In secondary schools and art classes, for example, the results are judged by the inspectors for science. That is almost as ridiculous as compelling men like the late Matthew Arnold to examine and report on elementary needlework. The efficiency rate for science is 25*s*., while for art it is only 12*s*. Mr. Marriott said he hoped to see every art school the centre of a guild of handicraft, but if such an attempt were made the authorities would look on it as a kind of conspiracy. In towns where the local authorities rule the art schools much could be done to promote association.

In dealing with Ireland secrecy should be avoided, especially in public affairs. It is proposed to erect new buildings for the students of the Marlborough Street Training College in Dublin. When completed the premises will provide accommodation for both male and female students, but tenders have as yet only been invited for the residence for the male King's scholars. As the terms for the contract for the male students' residence have not been finally settled, the amount of the tender which has been provisionally accepted will not be made public. This is exactly the kind of dealing which causes the Irish to imagine that the arrangements for the building are not straightforward.

The Commissioners of the Historical Manuscripts Commission have issued a circular describing the course followed in the preparation of reports. If any nobleman or gentleman express his willingness to submit any unprinted book or collection of documents in his possession or custody to the Commissioners, they will cause an inspection to be made by some competent person, and should the MSS. appear to come within the scope of their inquiry, the owner will be asked to consent to the publication of copies or abstracts of them in the reports of the Commission, which are presented to Parliament every session. To avoid any possible apprehension that the examination of papers by the Commissioners may extend to title-deeds or other documents of present legal value, positive instructions are given to every person who inspects MSS. on their behalf that nothing relating to the titles of existing owners is to be divulged, and that if in the course of his work any modern title-deeds or papers of a private character chance to come before him, they are to be instantly put aside, and are not to be examined or calendared under any pretence whatever. The object of the Commission is the discovery of unpublished historical and literary materials, and in all their proceedings the Commissioners will direct their attention to that object exclusively. In practice it has been found more satisfactory, when the collection of manuscripts is a large one, for the inspector to make a selection therefrom at the place of deposit, and to obtain the owner's consent to remove the selected papers to the Public Record Office in London or in Dublin, or to the General Register House in Edinburgh, where they can be more fully dealt with, and where they are preserved with the same care as if they formed part of the muniments of the realm during the term of their examination. The cost of inspections, reports and calendars, and the conveyance of documents, will be defrayed at the public expense without any charge to the owners.

ILLUSTRATIONS.

CATHEDRAL SERIES.—WAKEFIELD: DETAIL OF SCREEN.

ST. PAUL'S GIRLS' SCHOOL, BROOK GREEN.—FRONT VIEW—BACK VIEW.

ST. OLAVE'S UNION, NEW OFFICES, RELIEF STATION AND DISPENSARY.

DESIGN FOR MUNICIPAL BUILDINGS, LAMBETH.

GORING AND ALDWORTH.

A PARTY of members of the Upper Norwood Athenæum and their friends visited Goring, Streatley and Aldworth, the former in Oxfordshire, the two latter in Berkshire, on Saturday, June 24. The visit to this interesting corner of the home counties was made under the leadership of Mr. Frederick Higgs, who ably acquitted himself in this his first conducted ramble. At Goring the Rev. L. J. Wallace, M.A., very kindly met the party and gave an interesting account of the church and its architectural features. Driving to Aldworth over the Ridge Way and through most charming scenery, the church of the latter village was seen, the vicar, the Rev. G. Mattinson, M.A., affording all the information available respecting this interesting building and its contents.

Two of the bells of the church of St. Thomas of Canterbury, Goring, have interesting inscriptions. On the one is

Sancte Blase,

one of the patron saints of the weavers and clothiers; the other bears the legend:—

Orate pro Petro Exoniense Episcopo.
Ricard de Wambis me fist.

The Richard of Wimbish who "me fist," was a citizen and potter of London, and cast a bell for the church of Holy Trinity, Aldgate, in 1312.

The very interesting series of nine fourteenth-century effigies of members of the family of De la Bèche are singularly illustrative of the armour and dress of the period; they are in recesses in the wall, of exceedingly fine ornamentation and delicate cusping.

The members and friends afterwards assembled at the Bull Hotel, Streatley, for tea, after which Mr. Frederick Higgs read the following paper upon the interesting subjects of the afternoon's ramble.

Two thousand years ago, when the Romans first began to subjugate this country, it is most probable that the whole district lying on both sides of the river Thames was a primeval forest, across which they found roads or tracks in use by the inhabitants of the country, and which they to a large extent adopted and made fit for heavier traffic. One of these roads traversed this part of the country from north-east to south-west and was called the "Icknield Way," which, surmounting the Chiltern Hills, crossed the river Thames, and passing up the Berkshire downs on the other side, and running along the ridge of hills, is known to this day as the "Ridge Way."

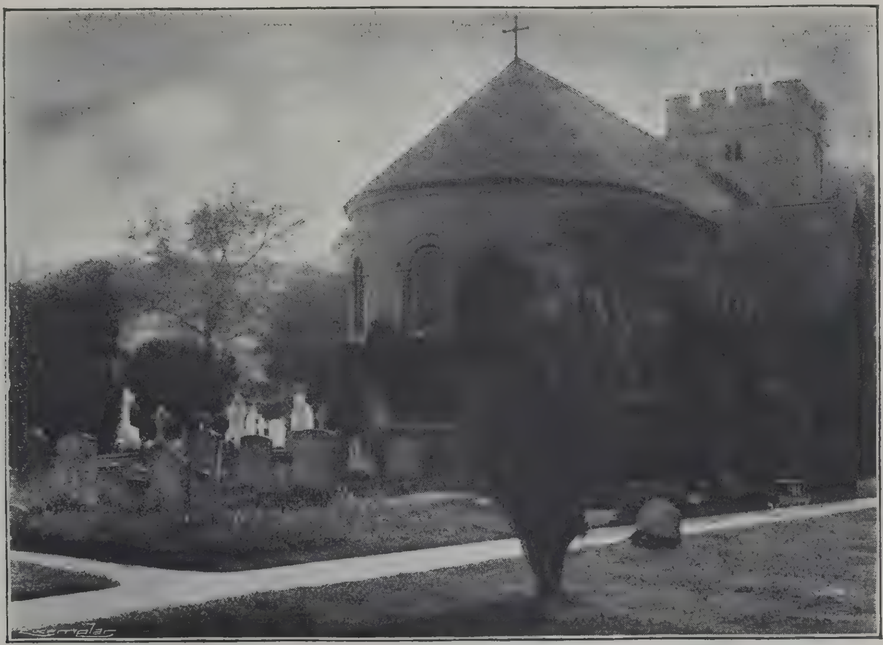
At the ford a post or station was probably established on the Oxfordshire side, which, growing into a village or town, became subsequently known as "Goring."

The church in Goring was probably built about the end of the eleventh century by Robert or Nigel D'Oyley, Lord of the Goring manor of that period. It had evidently in the first instance a plain Norman nave with an apsidal chancel and a Norman tower. The nave was built fairly lofty, and contains deeply recessed windows on each side, the lower part of the walls being very solid and without any openings except for the north and south doors, the latter admitting to the nuns' cloister.

The nunnery appears to have been founded during the reign of Henry II., and was dedicated in honour of St. Mary. The nuns built their chapel east of the old church, demolishing the apse in order to do so. The semicircular apse was restored in the remodelling in 1886. The chancel, therefore, which you have seen to-day is of very recent construction. Previous to this the east end was square, as it had been formed by the nuns, and in opening out the foundations the base of the old apse wall was found and built upon. The priory buildings and the nuns' church were demolished by the lay rector at the time of the Dissolution.

The north aisle was erected in the reign of John, about 1200, and was doubtless intended as a chapel for the lords of the manor; the piscina in connection with its altar exists, and has been seen at the east end of this chapel to-day.

The Druvall family held the manor of Goring in the succeeding reign—that of Henry III.—and the recessed tomb on the north aisle wall was probably originally put there as the tomb of the founders, probably the Druvalls. The gravestone which you have seen lying on its side in this recess, and originally erected to the memory of a Mrs. Mary Higgs, has, I need hardly say, no connection whatever with the tomb itself. When the founders of the chapel erected it they formed the massive arcade under the abutting nave wall with the round Norman pillars and the Old English rebated and chamfered arching, showing the work to have been executed at the period when the architectural fashion was changing. It will be noted as a curiosity that the masonry in the piers, not only in this church but in that at Streatley, is formed alternately of chalk and stone, but the probability is that originally the whole of the building was constructed of flint, with very good mortar, having dressings of block chalk only, stone having been since used for repairs. It will have been noticed that the arches interfered to a large extent with the Norman windows above them, the jambs of which were left undisturbed so far as they were not affected by the insertion. This theory accounts for their presence to-day in the plain wall face on each side of some of the nave arches.



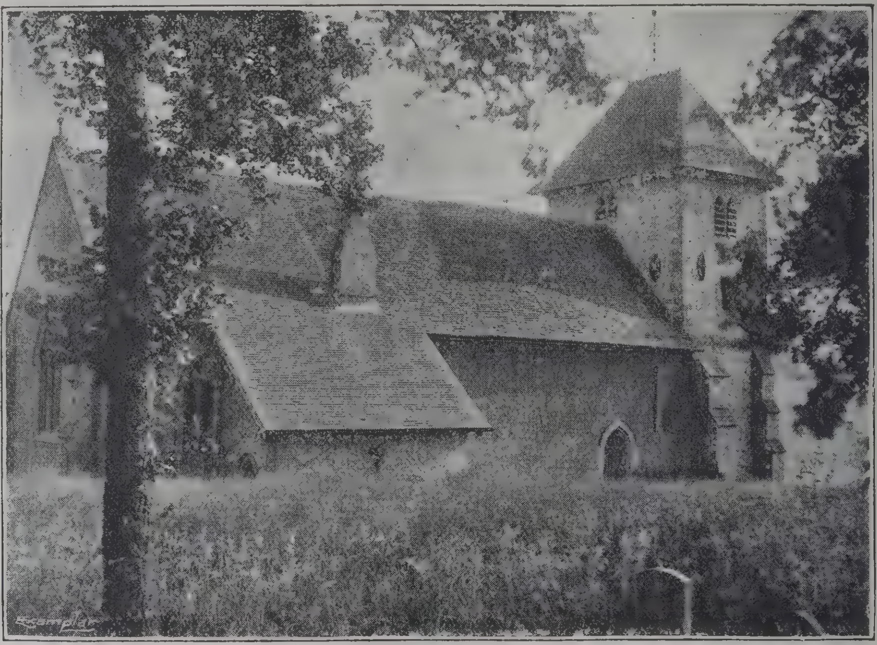
St. Thomas of Canterbury, Goring.

The porch and probably the chapel or aisle windows date from Richard II., a century and a half later, when it is most likely that the upper part of the tower, where the Decorated windows appear, was built.

The priory buildings extended from the church southwards as far as Ferry Lane, but at the present time there are no traces visible above ground. There are some interesting brasses to certain lords of the manor of the name of Whistler, about 300 years old, and on one of them appears the family coat of arms, showing on the shield five diamonds diagonally from left to right with a leopard in the corners above and below. It is interesting to know that this coat of arms is identical with that of the family of the late Mr. Whistler, the eminent artist. The oldest brass is to Henri de Aldryngton, bearing date 1375. There are five bells, founded respectively in 1280, 1500, 1624, 1626 and 1650.

The tower is one of the most interesting features of this church, as it is distinctly Norman in construction and character. It contains a winding stair leading to the belfry. The circular face of the outside exhibits certain architectural features—a very pretty little piece of dog-tooth ornament about half-way up, and the half-conical roof with its Decorated eaves course. The belfry floor is supported on a groined ceiling of Early English character, in all probability erected when the upper part of the tower was rebuilt towards the end of the fourteenth century. It remains sound and good to this day, and is a very fair specimen of the groined work of the period. There are signs of a gable roof having abutted into the west side of the tower, and of a window or door opening (since filled up) at the belfry level. These are all that can now be traced of the prioress's lodging.

There is an almshouse foundation in connection with the parish, founded by one Allnutt in 1724, who left money for this purpose and for apprenticing boys. The buildings adjoin the churchyard, a little east of the church, and have stood the test of time excellently, being now getting on for 200 years old.



St. Mary, Aldworth.

On the other side of the ford grew up a hamlet which evidently took its name from bordering on the Ickneild Street, being known as Streatley or Stretly. It is a most picturesque little village, and a favourite resort for artists, fishermen and general seekers after pleasure on the river. The mill adjoining the ford has been portrayed on canvas times without number, and the Old Swan inn, with its landing stage and well-kept garden, presents a most picturesque view from the river or bridge.

The church, which lies a little off the road, is of old foundation, the first vicar having been appointed in the year 1307. There are at the present time but few signs of antiquity about it, one of these being a brass at the east end of the north aisle bearing date 1440, and another at the corresponding position on the south aisle to Thomas Buriton and his wife, bearing date 1603. It is a beautiful little building in its way, the restorations having been very well done; but it has this disadvantage, that it has been, like the Irishman's gun, renewed "lock, stock and barrel," and what little of the old remains is carefully out of sight, being nothing but the core of the walls, the foundations and a few of the larger roof timbers. Like Goring, the facing stonework consists of alternate courses of chalk and stone.

In the old days of semi-barbarism, when the country was torn by "fightings within and fears without," the feudal system was evidently a necessary part of the politics of the day, and at intervals up and down the country sway was held by certain lordly families to whom yeomen and serfs yielded obedience, and who in their turn yielded certain obedience and service to the king. These families lived in their castles, which were veritable strongholds in most cases, and must have been situated near the roads or ways which crossed the country.

About four miles along the Icknield or Ridge Way, south-westward from Streatley, lived during the period approximately 1200 to 1400 one of these families bearing the name De la Bèche, whose castle was called the Castle of Bèche, in the parish of Aldworth. This was really a most remarkable family, and although they died out of existence as a clan about the year 1382, they left behind them the most remarkable collection of monumental effigies to be found in any parish church of its size in the country.

The discovery of their identity at a comparatively recent date came about in a remarkable way. When ploughing near the homestead known as the Beech Farm, a silver seal was turned up which was found to be the identical seal of Isabella de la Bèche, the wife of Sir John de la Bèche, of the third generation of the family represented by the memorials. Whitaker tells us that:—"It was the custom that the seals of the landowners, being personal and not family seals, were broken up on the death of the individual to whom they belonged, so that while thousands of impressions in wax are remaining, it would be difficult to find half a dozen originals of the same date." The family originally was Flemish, and did not come over with the Conqueror, but followed probably half a century to a century later, for we find that men of this name possessed lands in Cambridgeshire, Oxfordshire and Sussex in the twelfth century.

Sir Robert de la Bèche had evidently attained to power and notoriety early in the thirteenth century. He took part in the last Crusade led by Prince Edward, son and heir of Richard III. He was accompanied to Palestine by his son John, also a knight, which honour both father and son probably received from Edward I. in consequence of meritorious services.

The effigy at the west end of the north wall, which I call No. 1, commemorates the Sir Robert referred to. No. 2, the next eastward, represents the son John. Both are represented in full suits of knightly armour, each with a hand on the sword hilt, and with the legs crossed. At this time the church undoubtedly consisted, like that of Goring, of a single nave and chancel, having been probably built about 100 years previously. The knight whose monument appears in the easternmost recess was Sir Philip, son of Sir John and grandson of Sir Robert, and was Lord Chamberlain and valet to Edward II. at the early part of the fourteenth tury. He was a man of gigantic stature (7 feet it is said), l it is recorded that he had as his page at Court a dwarf, more effectually to set forth his magnificent proporns; a trace of this dwarf can be seen in the effigy. It l have been noticed that the figure is represented as ng on its side with the legs drawn up, so that it might easier be fitted into the recess which had been formed in wall of the church, in all probability by his father, who l made his preparations for a figure of the normal e. It will also have been noticed that the figure reprents a man in armour, but whose armour is covered by a ak or mantle, a privilege he was entitled to enjoy by reason his office in the king's household. This Sir Philip was father of six sons and one daughter, and it is remarkable at with one exception there does not seem to have been y of his sons who were able to follow in his footsteps in s respect. Consequently the family died out within the lowing century. The mother of these six sons was Joan la Zouch, a member of a notable family of that name o held lands in the Midlands, and whose name is pertuated to the present day in the township of Ashby-de-Zouch.

It is recorded that the high altar of the church was redicated to St. Mary during the reign of this knight. The rth and south chancel windows and the piscina and dilia are of the same period.

Ancient Yew Tree, Aldworth.

It is interesting to note, coming as most of us do from e South of London, that Sir Philip held lands in Wandsorth and Battersea under the Abbey of Westminster.

Trouble came upon the family during this period rough the divisions caused by politics, and in 1321 arrants were issued to arrest Sir Philip and four of his ns, who had espoused the cause of the Barons against the ing. They were taken prisoners after the Battle of orough Bridge, the elder being incarcerated at Pomfret, d the younger Philip at Scarborough, while John was nt to the Tower of London. Of the two younger sons, obert, a man at arms, was shortly pardoned and released, d Edmund, who was a clerk in Holy Orders, was fined d released on bail. The imprisonment lasted for five ears, and John (who we will call John II.), whose monuent you will have seen under the eastern arch of the nave cade, was treated very rigorously, largely owing to his aving exhibited a very obstinate character. In fact, it is corded of him that although he submitted, he used very d language to his judges when he was arraigned for high eason. Sir Philip did not long survive his release from carceration, and died in 1329; in the meantime, his son ir John had already died in 1327, the imprisonment aving practically killed him. The wife of this John was e Isabella de Elmridge, a woman of considerable aracter and parts. She, out of respect and affection r the husband who had been thus perhaps martyred, etermined to erect a monumental chapel in Aldworth hurch, which became the one aisle now existing to the church, on the south side, and prepared a tomb to his memory similar to those of his forbears except that it is detached, and rests under the easternmost arch of the arcade thus formed out of the old wall of the nave. This tomb she prepared broad enough for two figures, placing that of her husband on the north side, while she herself was subsequently represented adjoining his figure. The canopies which originally covered this and the adjoining tomb have since entirely disappeared, but imagination can easily conjure up what a beautiful creation in stone would have been effected by the craftsmen of that period. There are indications in a hole just above the pier-caps of both sides of a bar or joist which very probably helped to support the upper portions of the structure. The figure of John II. is represented in the civilian costume of the day, and it is noticeable that the lacing of the lower part of the garment, which is somewhat like a Scotch kilt, stops short at the last three holes, where it is evident that the sculptor, desiring to show a little touch of realism, represented the laces as being not quite long enough to continue right to the bottom.

Isabella, in making this chapel, constructed three recesses on the south wall similar in character to those which had been constructed on the north side by her father-in-law, but of a slightly more embellished style, as will have been noticed in comparing the pinnacles.

The old Sir Philip having died in 1329, there succeeded to the estates his grandson John, who, for some reason or other, probably on account of youth or illness, seems to have conveyed the property to his uncle Philip II., with succession to his uncle Nicholas, and who held it until his death in 1339.

It is recorded that the latter obtained a license to create parklands at De la Bèche and Yattendon, and to fortify the mansions upon the manors of De la Bèche, Beaumys and Watlington.

The monument to this knight was placed on the easternmost recess of the south wall of the new aisle. He is fully armed, with a raised vizor. Colonel Symonds in the early part of the seventeenth century noted that there was a lion at the feet. This is now missing.

After Philip II., Nicholas, the third son of the elder Philip, came into possession under the disposition of his nephew John. This Nicholas exhibited more prudence than his father and brothers, and during the Earl of Lancaster's attempt to upset the king he kept out of the way, and though he declined to raise men for the king he did not bear arms against him, and after the accession of Edward III. his career was prosperous. He became Constable of the Tower and was tutor to the king's children, among them Edward the Black Prince. It is quite possible that he joined with his sister-in-law, Isabella, in founding the aisle chapel, and was doubtless instrumental in placing the statue in the centre niche of the south wall, which represents his mother, Joan de la Zouch. The westernmost recess of the south wall contains an effigy to the memory of the John referred to, son of John and Isabella, whose memorials rest together, and who appointed his two uncles guardians of the property. He died in 1341, and with him the name of De la Bèche came to an end, the remaining children of John and Isabella having been daughters, viz. Joan, Isabella and Alice, Nicholas not having any family, and Edmund, Robert and Edward never having married.

We thus see that this family, though few in number, were very remarkable in their strength of character and devotion to one another, and though they lived but a short time they left a most enduring monument for the wonder and veneration of the succeeding generations, even six centuries later, and I think you will all concur that the short time of our hurried visit has been extremely well spent.

The font is one of the oldest features of the church, and is of as plain a design as can possibly be imagined, but is worked with very great truth and care. It is perfectly round on plan, but is rather smaller in diameter at the bottom than at the top.

There are several very quaint and interesting carved bosses about the building, particularly those which are placed at the springing of the label mouldings which surround the nave arcade on the aisle side, and it is noticeable that there are no mouldings of this sort on the nave side, the founder's evident intention being to preserve the simplicity of the earlier architecture when erecting her addition to the church.

The windows of this chapel also are of very chaste and beautiful design, and the one on the south side of the chancel is particularly interesting, as it has the peculiarity of having a double lancet in each panel one above the other, with the intervening space not cusped with a trefoil piece of glazing as is the usual treatment, but left solid.

The pulpit is a very interesting and excellent specimen of Jacobean work, with the characteristic wealth of ornament of the period; it came from St. Lawrence's Church, Reading, when, during the early part of last century, the churchwardens of that place were making alterations and probably installing a three-decker. They very likely would be glad now to get their pulpit back again. "Altera tempora, alteri mores." The reading desk is of similar character, but formed part of a sideboard in the possession of a local worthy. It has been excellently adapted, and is of beautiful workmanship and design.

There are three very old bench ends of oak, having Perpendicular cusped panelled fronts, and above a carved panel and head triple shaped and carved, and bearing the emblem of the Tudor Rose.

There is preserved in the vestry, in a small wooden frame, a sculptured fragment which is said to represent Our Lord before His accusers. Some students have held the opinion that this statuette formerly stood upon the moulded corbel above the effigy of the monument of John and Isabella, and think that it was put there in order to indicate John's repentance from the state of rebellion which had caused him to rail at his judges. It is more likely, however, that the piece belongs to the reredos which, without doubt, was constructed at the back of the high altar, consecrated during Philip I.'s time, and which was destroyed during the Commonwealth period, which also saw the great mutilation of the monuments themselves, the results of which are so painfully apparent to-day.

It will have been noticed that there are certain dates cut upon some of the figures by sacrilegious visitors, even at so early a period as 1510. It is on record that one vicar, about the middle of the seventeenth century, disapproving of the wickedness of the inhabitants on this account, meekly resigned instead of controlling his flock.

Outside the south wall of the chapel at the westernmost end is a plain stone arch under which the flintwork is slightly recessed, and it is said that this formerly was part of an external monument to one of the family, but of this I have not found any definite record. It is mentioned by the Colonel Symonds before referred to, who lived in the time of Charles I., and who paid a visit to Aldworth, recording his observations in a diary. There is a story current to the effect that the man to whose memory the monument was erected was unworthy in many respects, and was therefore buried neither inside the church nor out of it, but immediately under the wall, and that there were four Johns, colloquially known as John the Long, John the Strong, John the Never-afraid and John the Ever-afraid. It is most likely, however, it was a memorial to Robert, son of Philip the Elder.

This might have been proved if the original chart of thi pedigree of the family had been restored to the church b the Earl of Leicester, who, it is recorded, took it down from the wall to show Queen Elizabeth, who had made a pilgrim age to see the monuments, but who never returned it.

The stonework of the wall canopies is largely recent having been restored in the time of the last vicar but one but there are sundry pieces of the old stones to be seen along the pathway in the churchyard, also an ecclesiastica tomb coverstone just outside the vestry door. The vica will be well advised to get these collected up and placed inside the church, and so save further destruction by the elements.

Adjoining the south boundary of the churchyard is stil growing a yew tree, which has been calculated by experts to have been planted in the fifth century. Major Jessop, of the Royal Engineers, writing to the vicar of the parish in 1896, mentions that he had measured the circumference as 9 yards, and that it was referred to in a book published in 1760 as having the same circumference. I measured i to-day at 27 feet 9 inches—4 feet up from the ground. He therefore assumed that its growth had been stationary for a century, and that it had obtained its zenith about the middle of the eighteenth century. He further mentioned that Dr. Rock, in his publication "The Church of our Fathers," refers to the tree, giving a calculation to show that on the assumption that the increase of the girth of a yew tree being one line annually, or one-twelfth of an inch, this tree must have commenced its growth somewhere about 460 A.D.

In any case, it is evidently of immense age, and the grotesque and picturesque shapes which its lower branches and trunk have assumed render it one of the most remarkable trees in the country.

The illustrations are from photographs by Mr. H. S. Mendelssohn.

SCHOOL BUILDINGS.

THE following rules as to the hygienic and sanitary conditions of the premises, the construction of the fabric, and the safety of the scholars in cases of emergency have been prescribed by the Board of Education:—

Rule 1.—Sites and Playgrounds.

In planning a school care must be taken to secure that there shall be an open airy playground proportioned to the size and needs of the school, and the site should, if possible, have a building frontage suitable to its area. A site open to the sun is especially valuable for the children, and important in its effects on ventilation and health. The minimum size of site is, in the absence of exceptional circumstances, a quarter of an acre for every 250 children, irrespective of the space required for a teacher's or caretaker's house, or for a cookery or other centre. If the school is of more than one storey this area may be proportionately reduced; but a minimum unbuilt-on or open space of 30 square feet per child should be preserved. (*a*) Except in the case of very small schools, playgrounds should be separate for boys and girls, and should, where practicable, have separate entrances from the road or street. (*b*) All playgrounds should be fairly square, properly levelled, drained and enclosed. A portion should be covered, having one side against the boundary wall. A covered way should never connect the offices with the main building; buttresses, corners and recesses should be avoided. (*c*) An infants' school should have its playground on the same level as the school, and a sunny aspect is of special importance.

Rule 2.—Walls, Floors and Roofs.

The walls of every room used for teaching, if ceiled at the level of the wall plate, must be at least 12 feet high from the level of the floor to the ceiling; if the area of the room exceed 360 square feet the height must be not less than 13 feet, and if it exceed 600 square feet then the height must be at least 14 feet. (*a*) The walls of every room used for teaching, if ceiled to the rafters and collar beam, must be at least 11 feet high from the floor to the wall plate and at least 14 feet to the ceiling across the collar beam. (*b*) Great care should be taken to render the roofs impervious to cold and heat. (*c*) Roofs open to the apex are very undesirable. They can be permitted only where the roofs are specially impervious to heat and cold, and where apex ventilation is provided. Iron tie-rods are least unsightly when placed horizontally. (*d*) In the case of a school of more than one storey especial care must be taken to render the floors as far as possible soundproof. (*e*) The iole of the external walls of the school and residence (if y) should be solid. If of brick, the thickness must be at ist one brick and a half; and if of stone, at least inches; where hollow walls are proposed, the external ill must be 9 inches thick, with a 4½-inch lining and a nch cavity. (*f*) The Board are only prepared to sanction e erection of schools of a lighter construction, *e.g.* in iron d wood, or other suitable material, in very special cumstances, as for example in colliery districts, where, ving to mining operations, there is no site available upon iich a building of the ordinary solid type can be safely ected; or where the population is not of a stationary aracter, as, for example, during the progress of a large ece of engineering work, or in the neighbourhood of a mine ely to be soon worked out, or where temporary accomodation is required during the building of a new school or e reconstruction of an old one. Where such buildings e proposed special care must be taken to insure the mfort of the children with regard to warmth and ventilan. (*g*) All walls, not excepting fence walls, should have damp-proof course just above the ground-line. (*h*) The egetable soil within the area of the building should be moved, the whole space covered by a layer of concrete not ss than 6 inches thick, and air bricks inserted in opposite alls to insure a through current of air under floors for ntilation to joists. (*i*) Timber should be protected from e mortar and cement by asphalte or tar.

Rule 3.—*Entrances.*

Entrances should be separate for each department and ach sex. In large schools more than one entrance to each epartment is desirable. (*See* also Rule 4.) Entrance oors should open outwards as well as inwards. A porch iould be external to the schoolroom. An external door, aving outside steps, requires a landing between the door id the threshold.

Rule 4.—*Staircases.*

There must be separate staircases for boys and girls, id each department should have its own staircases. Every aircase must be fireproof, and external to the halls, orridors, or rooms. Triangular steps or "winders" must ot be used. Each step should be about 13 inches broad nd not more than 5½ to 6 inches high. The flights should e short and the landings unbroken by steps. The number f staircases must be sufficient not only for daily use, but lso for rapid exit in case of fire or panic. For any upper oor accommodating more than 250 a second staircase is ssential.

Rule 5.—*Cloak-rooms and Lavatories.*

Cloak-rooms should not be passages, and should be xternal to the schoolrooms and classrooms. Cloak-rooms hould be amply lighted from the end, and should not be laced against the gable wall, which should be fully utilised or windows giving light to the rooms used for teaching. here should be separate ingress and egress, so that the hildren can enter and leave the cloak-room without conision or crowding. There should be gangways at least feet wide between the hanging-rails. Hat pegs should be 2 inches apart, numbered, and of two tiers. The lineal anging space necessary to provide a separate peg for ach child is thus 6 inches. The hat pegs should not be irectly one above the other. Thorough ventilation and isconnection are essential, so that smells are not carried ito the school. Ample space is needed immediately utside a cloak-room. Lavatory basins are needed. (*See* ule 9 (*g*)). Girls' schools require a larger number than oys or infants'. A lock-up slop sink, water-tap and cupoard are desirable for the caretaker.

Rule 6.—*Lighting.*

Every part and corner of a school should be well ghted. The light should, as far as possible, and especially i classrooms, be admitted from the left side of the scholars. This rule will be found greatly to influence the planning. *ee* Rules 6 (*b*) and 7 (*a*)). All other windows in classrooms hould be regarded as supplementary or for ventilation. Vhere left light is impossible right light is next best. Vindows full in the eyes of scholars cannot be approved. Jnless the top of the windows be more than 14 feet above ie floor the plan should show no space more than 24 feet om the window wall in any room used for teaching.

(*a*) Windows should never be provided for the sake ierely of external effect. All kinds of glazing which iminish the light and are troublesome to keep clean and i repair must be avoided. A large portion of each window iould be made to open for ventilation and for cleaning. (*b*) The sills of the main lighting windows should be placed not more than 4 feet above the floor; the tops of the windows should as a rule reach nearly to the ceiling and the upper portion should be made to swing. The ordinary rules respecting hospitals should here be remembered. Large spaces between the window-heads and ceiling are productive of foul rooms. (*c*) Skylights are objectionable. They cannot be approved in schoolrooms or classrooms. They will only be allowed in central halls having ridge or apex ventilation. (*d*) The colouring of the walls and ceilings and of all fittings in the rooms should be carefully considered as affecting the light. This point and the size and position of the windows are especially important in their bearing on the eyesight of the children. (*e*) The windows should be properly distributed over the walls of the classrooms so that every desk shall be sufficiently lighted. The glass line of the window furthest from the teacher should be on a line with the back of the last row of desks.

Rule 7.—*Ventilation.*

The chief point in all ventilation is to prevent stagnant air; particular expedients are only subsidary to this main principle. There must be ample provision for the continuous inflow of fresh air, and also for the outflow of foul air. The best way of providing the latter is to build to each room a separate air chimney carried up in the same stack with smoke flues. An outlet should be by a warm flue or exhaust, otherwise it will frequently act as a cold inlet. Inlets are best placed in corners of rooms furthest from doors and fireplaces, and should be arranged to discharge upwards into the room. Gratings in floors should never be provided. Outlets in ceilings must not open into a false roof, but must be properly connected with some form of extract ventilator. The size of the inlets and outlets must be carefully adapted to the method of ventilation proposed. A much larger area is required when no motive force is provided. It is as well that the windows should have both the top and bottom panes arranged to open inwards as hoppers. Besides being continuously ventilated by the means above described, rooms should as often as possible be flushed with fresh air admitted through open windows and doors. Sunshine is of particular importance in its effects on ventilation and also on the health of children. (*a*) Although lighting from the left hand is considered so important, ventilation demands also the provision of a small swing window as far from the lighting as possible, and near the ceiling.

Rule 8.—*Warming.*

The heat should be moderate and evenly distributed so as to maintain a temperature of from 56 degrees to 60 degrees. When a corridor or lobby is warmed the rooms are more evenly dealt with and are less liable to cold draughts. Where schools are wholly warmed by hot water the principle of direct radiation is recommended. In such cases open fireplaces in addition are useful for extra warming on occasions, and their flues for ventilation always.

(*a*) A common stove with a pipe through the wall or roof can under no circumstances be allowed. Stoves are only approved when:—(1) Provided with proper chimneys (as in the case of open fires); (2) of such a pattern that they cannot become red-hot or otherwise contaminate the air; (3) supplied with fresh air direct from the outside by a flue of not less than 72 inches superficial; and (4) not of such a size or shape as to interfere with the floor space necessary for teaching purposes. (*b*) A thermometer should always be kept hung up in each room. (*c*) Fireplaces and stoves should be protected by fireguards. (*d*) If a room is warmed by an open fire the fireplace should be placed, if possible, in the corner of the room in order to leave space for the teacher's desk and black-board.

Rule 9.—*Sanitary Arrangements.*

Water-closets within the main school building are not desirable, and are only required for women teachers. All others should be at a short distance and completely disconnected from the school. Privies should be fully 20 feet distant. (*a*) The latrines and the approaches to them must be wholly separate for boys and girls. In the case of a mixed school this rule especially affects the planning. Boys and girls should not use the same passages or corridors; where such an arrangement is unavoidable, there must be complete supervision from the classrooms by sheets of clear glass. (*b*) Each closet must be not less in the clear than 2 feet 3 inches wide, nor more than 3 feet, fully lighted and ventilated and supplied with a door. The doors should be at least 3 inches short at the bottom and at least 6 inches short at the top. More than one seat is not allowed in any closet. (*c*) The children must not be obliged to pass in front of the teacher's residence in order to reach their latrines. (*d*) The following table shows approximately the number of closets needed :—

	For Girls.	For Boys.	For Infants.	For Girls and Infants.
Under 30 children . .	2	1	2	2
,, 50 ,, . .	3	2	3	3
,, 70 ,, . .	4	2	3	4
,, 100 ,, . .	5	3	4	5
,, 150 ,, . .	6	3	5	6
,, 200 ,, . .	8	4	6	7
,, 300 ,, . .	12	5	8	8

There should be urinals in the proportion of 10 feet per 100 boys; urinals are required for infant boys. If the numbers in the school are not very large offices common to girls and infants can be approved; a proper proportion of the closets must then be made of a suitable height for infants. (*e*) Earth or ash closets of an approved type may be employed in rural districts, but drains for the disposal of slop and surface water are necessary. Cesspits and privies should only be used where unavoidable, and should be at a distance of at least 20 feet from the school. (Building form "A," which may be obtained on application, gives suggestions as to their construction and arrangement.) (*f*) Soil-drains must always be laid outside the building (on a hard even bottom of concrete) in straight lines with glazed stoneware pipes, carefully jointed in cement and made absolutely water-tight. A diameter of 4 inches is sufficient except for drains receiving the discharge of more than ten closets, when the diameter should be 6 inches. The fall should never be less than 1 in 30 for 4-inch and 1 in 40 for 6-inch drains. An inspection opening or chamber should be provided at each change of direction, so as to facilitate cleansing the drain without opening the ground. Every soil-drain must be disconnected from the main sewer by a properly constructed trap placed on the line of drain between the latrines and the public sewer. This trap must be thoroughly ventilated by at least two untrapped openings; one being the 4-inch soil pipe carried up full size above the roof, and the other an inlet pipe connected with the side of the trap furthest from the public sewer. Automatic flushing tanks are desirable where trough closets are used. (*g*) Waste pipes from sinks or lavatories should be first trapped inside and then made to discharge direct through an outer wall over a trapped gully.

Rule 10.—*Water Supply.*

In all schools adequate and wholesome drinking water must be available for the scholars. In cases where it is not taken from the mains of an authority or company authorised to supply water, care must be taken to ascertain that the water proposed to be used is adequate in quantity, is of suitable character and is not liable to pollution in any way, as *e.g.* by surface drainage, or by leakage from sewers, drains, cesspools or other receptacles. Where water pipes are used they should be so laid or fixed as to be properly protected from frost, and so that in the event of their becoming unsound the water conveyed in such pipes will not be liable to become fouled, or to escape without observation. There should be no direct communication between any pipe or cistern from which water is drawn for domestic purposes, and any water-closet or urinal. All water-closets and urinals should be provided with proper service cisterns, which, together with the outlet therefrom, should be capable of providing a sufficient flush. Any cistern to be used for the storage of water should be watertight and be properly covered and ventilated, and should be placed in such a position that the interior thereof may be readily inspected and cleansed.

Submission of Plans.

Before recognising newly erected premises as suitable for a public elementary school the Board must be satisfied by the submission of plans, drawn in accordance with the prescribed requirements, that the building regulations are complied with. (Article 17 of the Code.)

N.B.—The promoters of schools must take their own measures to secure that their plans are in order under any by-laws which may be in force in the district in which the school is situated.

Plans relating to public elementary schools, and correspondence on such plans, should invariably be addressed to the Secretary, Board of Education, Whitehall, London, S.W., and not to any officer of the Board by name. Plans must, except in special circumstances, be submitted to the Boar through the local education authority, unless that authorit has approved the direct submission of plans to the Boar by an architect or by the managers. In such cases th covering letter should refer to the direction or approval o the local education authority, and failing this the Board may decline to consider the plans.

Requirements.

(All plans, whether for new buildings or for improvements to existing buildings, must be submitted in accordance with the requirements which follow. Plans which do not fully comply with these requirements cannot be considered.)

I. A block plan of the site, drawn in ink to a scale of 20 feet to an inch. This plan must indicate :—(*a*) The position of the school buildings; (*b*) outbuildings; (*c*) playground; (*d*) drains (collateral and main), with their fall and depth below ground; (*e*) entrances; (*f*) boundary walls or fences, and their nature; (*g*) roads; (*h*) the points of the compass; (*i*) the levels of the ground at the principal points.

N.B.—For approval of the site alone the plan should show (*g*) (*h*) and (*i*).

II. A plan of each floor of the schoolrooms (and teacher's or caretaker's house, if any) drawn in ink to a scale of 8 feet to an inch. The internal fittings of the rooms (fire-places, groups of desks, &c.) must be accurately shown. The plan should also state whether the rooms are intended for boys, girls, or infants. In cases of enlargement a plan showing the buildings as they exist is needed.

III. Sections and at least four elevations, also drawn in ink to a scale of 8 feet to an inch. The ceiling, the position of window heads in relation thereto, and the mode of ventilation must be shown.

N.B.—(*a*) Pencil drawings cannot be received, but sketch plans or coloured tracings in ink on tracing cloth may be submitted while plans are in the preliminary stage of pencil, so that suggested alterations can be adopted without difficulty or expense. Such plans may be drawn to a scale of 16 feet to 1 inch. The Board's final approval will not in any case be given to preliminary plans, and the full plans described above will always be required. (*b*) Diagrams are of no value and cannot be accepted. (*c*) In the case of enlargements or alterations the whole site and the existing building should be as accurately shown in every respect as the proposed changes, and in such a manner that any change of numbers can be ascertained. (*d*) All plans should be dated, the scales drawn on and dimensions figured. (*e*) It is preferable that all plans should be submitted on linen tracing paper or other material which can be folded.

IV. A section of the desk proposed to be used, drawn to a scale of 1½ inch to a foot.

V. A draft specification.

VI. An approximate estimate of the total expenditure proposed.

ART IN DUNFERMLINE.

THE following report has been prepared for the Carnegie Trust by Mr. John Robertson, head-master of the Lauder technical school :—

With a view to the provision of opportunities for the study of the higher branches of art in the town, I would suggest that arrangements be made for instruction being given under the supervision of specialists in the following subjects :—1. Painting, including still-life, figure, animal and landscape. 2. Design. 3. Architecture. 4. House decoration. 5. Modelling. 6. Minor crafts, such as china-painting, etching, metal-work, &c.

1. The class in painting would be held during the day, every day except Saturday, and at least four evenings a week, and would be attended by from ten to fifteen students who had gone through the preparatory course in the technical school evening classes. Arrangements should be made for a weekly visit being made by a professional artist, preferably by a member or associate of the Royal Scottish Academy.

The subjects of study would include drawing and painting of the figure from life, animal painting, figure and landscape composition, principles of colour, history of art, decoration, the nature and composition of paints and varnishes, &c.

The students forming this class in the evening would be designers, house-painters, architects and modellers.

. For the design class, which includes designers, house-pa ters, architects and modellers, and which might number w ity to thirty students, a course of fortnightly lectures sh ld be arranged, the lecturer to be a teacher of the su ect and a practical designer. These lectures show the ap ication of the principle of design to the various in istries.

3. A course of ten or twenty fortnightly lectures on ar itecture should also be given to the students in archi-te ure, building construction and modelling. The house-pa ters might attend part of the course, as when the in rnal arrangement of the building was under considera-ti . This class might number from twenty to thirty st lents.

Lecturers on architecture and design could be got from S th Kensington, London ; the Royal Institution or Heriot-W tt College, Edinburgh ; or the Glasgow School of Art. A y one interested in these subjects might be admitted to th classrooms on the lecture evenings.

4. The house-painters' class, numbering from twenty to tw nty-five students, should be under the instruction of a sp cialist two nights a week, who would give lessons in le ering, graining and the use of the colours, varnishes, &c. D signs for friezes and panels prepared in the design class w uld also be carried out under his supervision.

5. The modelling class has been a variable one in point o numbers, sometimes numbering twelve students, but as o accommodation is very limited we cannot do much to d velop it till a suitable room is provided. The room we h e at present has frequently to be used as an ordinary c ssroom, which prevents its being used to the full e ent for modelling. There are works in the vicinity of t town which would provide students if we could offer t m proper facilities.

6. There are some other subjects for which we occa-s nally have students, such as painting on china, metal-w rk, art needlework, wood-carving, and for which accom-m dation is required.

A class for the instruction of cabinetmakers should be c ganised. There would be no special accommodation r quired for this class, as the theoretical lessons could be g ven in the design-room and the practical work done in the odelling-room.

Rooms Necessary for the Accommodation of these Classes.

1. Painting-room, about 26 feet by 30 feet, with small om off for models, &c., furnished with easels and stools.

2. Designing-room, about 26 feet by 20 feet, furnished th benches.

3. Architecture-room, about 26 feet by 20 feet, furnished th benches and with small room off for casts, &c.

4. House-painters' room, about 26 feet by 30 feet, fur-shed with one or two tables, and with small room off for ints, brushes, &c.

5. Modelling-room, about 26 feet by 30 feet, with small om off for clay, furnished with stools, potter's wheel, &c.

6. Workroom for various crafts, about 20 feet by 5 feet.

Rooms 1, 4 and 5 would be required to begin with ; one om could accommodate the students for which rooms and 3 are intended, and room 6 could be added when quired.

Galleries for pictures, sculpture and examples of the fferent art industries might suitably be included in the me building as the school, the contents of the galleries eing thereby readily available for study. A building hich when completed would form the four sides of a ectangle enclosing a court could be designed to contain e classrooms and galleries. Such a plan would admit of xtension as required.

In the absence of the foregoing accommodation the llowing temporary arrangements are suggested :—

Accommodation could be found in the meantime in the echnical school for the classes in design and architecture.

A classroom is urgently required for the house-painters, here being at present no room available for them. Last ession this class was carried on in the basement of the echnical school under great inconvenience. The house-ainters have a good deal of spare time during the winter onths, and would gladly avail themselves of an oppor-unity of carrying on their work in the daylight. Last year ome of them took advantage of such accommodation as ve could offer, and if this privilege was extended it would dd very much to the usefulness of this class.

Note.—Since this report was prepared the School Board as secured temporary accommodation for the house-ainters' class.

A classroom would be required for the class in painting, including the life class. The room at present used for this class is not suitable and is needed for other classes. There have been frequent applications from students who wish to join a day class for painting. These applications could not be met for want of proper accommodation. There is reason to believe that about fifteen students would be willing to join a class in painting at a fee of from 15*s.* to 20*s.* per quarter, as exceptional opportunities could be afforded them for the study of art. Provision could without difficulty be made for animal painting ; Pittencrieff Glen, the Palace Ruins and the Abbey all afford excellent opportunities for the study of landscape-painting, and are just at hand ; a plentiful supply of flowers and foliage would also be available, and models can be had for figure study. The artist engaged to visit the evening class could also look over the work of the day class.

If these rooms were obtained and day classes started in them an additional art master would be required in the technical school to assist with the high school pupils during the day and to take some of the evening classes, in order that the head-master might be free to carry on the advanced work.

By the establishment of these classes in the higher branches of art education and by reason of the opportunities for study the district affords, students would be able to obtain an art training equal to any that could be had else where.

EXHIBITION OF CONTEMPORARY ART AT ANTWERP.

A CHARMING and most interesting exhibition of modern art, says the *Scotsman*, has just been opened in the museum, Rue de Venus, Antwerp. In a sense it is unique, perhaps not in its character, but in the ideas, aims and constitution of the Société de l'Art Contemporain, which has brought this collection of works of art together. The members of the Society are both lay and professional, the hon. president being M. Beerneart, Minister of State for the Fine Arts. Of the lay members there is a committee of management, fifteen associate members and some 130 "membres protecteurs." The latter are wealthy and influential people throughout Belgium, who pay a large annual subscription, which provides a handsome income for the furtherance of the work of the Society. Of artists there are only fifteen associate members, a select and enthusiastic group ; but that the character of the work might not run in a groove it is provided in the constitution that these artist associates are elected for a period of six years, five retiring every two years, these not being eligible for re-election for the next two years. Thus it is hoped that there will be a constant infusion of new blood. As has been said, the laymen provide the funds, and they manage the affairs of the Society. To the Edinburgh public the life and growth of such a Society should be rather interesting. It is now ancient history how an annual exhibition, managed as this is, flourished in Edinburgh ; that there were ructions after a bit, and that practically its death was the birth of the Royal Scottish Academy. The artist associates contribute largely, but the interest of the exhibition is by no means confined to their work, because foreign artists—mostly men of world-wide reputation—contribute 298 out of the 529 works shown. Indeed, the Society might add universal to its title, because its aim is to show not only what is being done in Belgium, but also what is being done in other countries. We are familiar in Scotland with having one or two "loan" pictures of foreign work at our exhibitions (Whistler was hardly a foreigner, he was an hon. member of the Academy) ; but here the idea is different. These 298 works are contributed by only nine artists, so that the comprehensive character of each man's work can be readily understood. A friend of the writer's, an eminent advocate in Antwerp, says :—"It is not alone for the people to see these works, but for our young artists too ; they come here and they learn much from the history of these men, which is written in their work." From France MM. Besnard and Cottet contribute 211 works. Naturally, such a number dominates the exhibition, and provides material for much study, many works being studies and sketches such as are not generally shown to the public. It is like a visit to an artist's studio ; how charming these notes of colour, these ideas for pictures ; how splendid that sketch by Cottet of his large picture in the Luxemburg. Perhaps next in importance are the con tributions from MM. Breitner and Verster from Holland. Breitner, with a room to himself, sends only completed works, but these are "magnifiques." From Spain Zuloaga sends ten fairly large canvases—Spanish women, coquettes and genre subjects. The Scottish public know something of his work. Lastly, Germany is represented by pictures from MM. Ludwig von Hofmann, Chr. Rohlfs, Hans Thoma and Heinrich Zuegel. Of these notably a collection of pastels by Von Hofmann are worth mentioning. Next year other painters from other countries will be invited to send works. Some time soon—next year perhaps, who knows—Scotland's turn will come, as both the lay and artist members of this Society have an intense admiration for Scottish art, and when the Scottish painters are asked much pressure will be used to have a representative collection. Belgium is represented by MM. Richd. Baseleer, Geo. Buysse, Emile Claus, Alf. Delaunois, Jean Delvin, Jas. Ensor, Léon Frédéric, Victor Hageman, Franc. Huygelen, Eugène Laermans, Charles Mertens, Const. Meunier, Evan Mieghem, George Minne, George Morren, Augusté Oleffe, Victor Rousseau, Théo van Rysselberghe, Jacob Smits, Walter Vaes. Some of these are not members of the Society, but are invited, and the works of the late Constantine Meunier, of which there are forty-four, are in the nature of a memorial exhibition. There are bronzes and plaster casts of many of his famous works, and there, in front, is his portrait bust by Victor Rousseau. Of the painters, Emile Claus and Charles Mertens are known already in England. Others will be notably M. Baseleer, a painter of beautiful silvery-grey open-air effects. But it is almost invidious to single out names from a group of able men.

At the *déjeuner* held in honour of the opening, the distinguished president, M. Grisar, in an eloquent speech, congratulated the artists on their work, and welcomed the foreign artists present, mentioning specially MM. Cottet and Breitner, and the members of the Press, "that great educator." After defining the aims of the Society, he stated that what the Society wished first of all was to uproot the idea that salons and exhibitions are only fashionable rendezvous. Its object was to be a distinguished link between the artist and the public, to encourage those who have never been able to command the support of the public, who have sacrificed nothing to academic formulas nor to recognised ideas. In conclusion, he said :—"What matters it though the material life may be assured, what matters the accumulation of riches, if the intellectual life is not developed at the same time, and it is this intellectual life, this atmosphere propitious to art, which *L'Art contemporain* is endeavouring to encourage among us."

GENERAL.

The King was pleased on Monday to confer the Commandership of the Royal Victorian Order on Sir C. Purdon Clarke, who is relinquishing the directorship of the Victoria and Albert Museum in favour of that of the Metropolitan Museum of New York. After the investiture His Majesty received Sir Purdon Clarke in private audience, and informed him that the Order was conferred to mark his personal appreciation of the long and distinguished services of the recipient.

M. Louis A. C. Brasseur has obtained the Prix de Rome for sculpture. He was a pupil of MM. Barrias & Coutan.

The Competition for the Prix de Rome in architecture has had the following results :—Grand Prix de Rome : M. Camille Lefèvre, born in 1876 at Tours, pupil of M. Laloux. First second grand prix : M. Georges-Fernand Janin, pupil of M. Laloux. The next grand prix : M. Henri-Charles Nicod, pupil of MM. Guadet, Paulin & Deglane. The subject was "The Distribution of Water in a Capital," an arrangement more grandiose than the Acqua Trevi.

The Prizes in the second competition for the Rothschild dwellings in Paris have been awarded as follows :—10,000 francs to M. Adolphe-Augustin Rey, 9,000 francs to M. Henry Provensal, 7,000 francs to M. Wilfrid Bertin, 6,000 francs to MM. André Ventre & Léon Besnard, 4,000 francs to M. Gustave Majou, *ex æquo*, 4,000 francs to M. V. Eichmuller, and a third *ex æquo* of 4,000 francs to M. Gaston le Roy. All live in Paris. The eighteen competitors in the second contest who have not won premiums are each to receive 2,000 francs.

The Excavations at Caerwent, the site of the Romano-British city of Venta Silurum, which have been in progress for five seasons, were reopened under the supervision of Mr. Ashby. Attention is now being directed to the sc gate, which forms an interesting parallel to the north g though it is in an even better state of preservation, alm half of the archway being still in existence. The entra in both cases was blocked, probably in Roman times, w the natives were hard pressed by the attacks of hos tribes. When the exploration of the gateway is comple work will be resumed in the fields adjoining the north and the amphitheatre.

The Memorial to Archbishop Temple, unveiled Saturday in "Becket's Crown" in Canterbury Cathed shows the late Archbishop kneeling. The architectu environment is executed in grey Cornish polyphant and figure is in bronze. The oaken canopy has four an pendants bearing the emblems of the Evangelists. niches in the open pedestal are six angels carrying the ar in enamel of the three Sees occupied by the Archbis (Canterbury, London and Exeter) and those of Archbish Anselm, Theodore of Tarsus, and Temple. The Ro Arms, those of the See of Canterbury, Canterbury impa with Temple, and the cathedral arms are also represent Mr. W. D. Caröe, F.S.A., made the design, and Mr. F. Pomeroy sculptured the figure, while the architecture w executed from details by Mr. N. Hitch.

At Eton College, on Saturday, the first stone was laid a building to be erected in memory of Etonians who fell the South African war. The site is immediately oppos the school chapel, and the house of the headmaster forme stood upon it. The memorial buildings will comprise school hall, accommodating the whole of the scholars, school library and a classical museum. The hall is to 140 feet long, 55 feet wide and 45 feet in height. T library will be a domed octagonal building of about 55 f diameter. They will be in the Renaissance style, and t material to be used will be Portland stone and red bric The total cost will be 40,000*l.* The architects are Mr. L. Hall, himself an old Etonian, and Mr. S. K. Greenslade.

The Lord Mayor of Liverpool has received a letter fro the President, secretary and treasurer of the Liverpo Academy of Arts, in which they urge that "it would add the authority and influence of the library and arts committ if arrangements could be made for one of the members the Academy to join the committee as a co-opted member

Mr. Sephton is engaged, at the request of the Germ Emperor, in copying at the Guildhall Art Gallery the pictu representing the defeat of the Spanish floating batteries Gibraltar. It was painted by J. S. Copley in 1790, when was purchased by the Corporation. The replica will about two-thirds of the size of the original canvas, whi completely covers one side of the Guildhall Art Gallery.

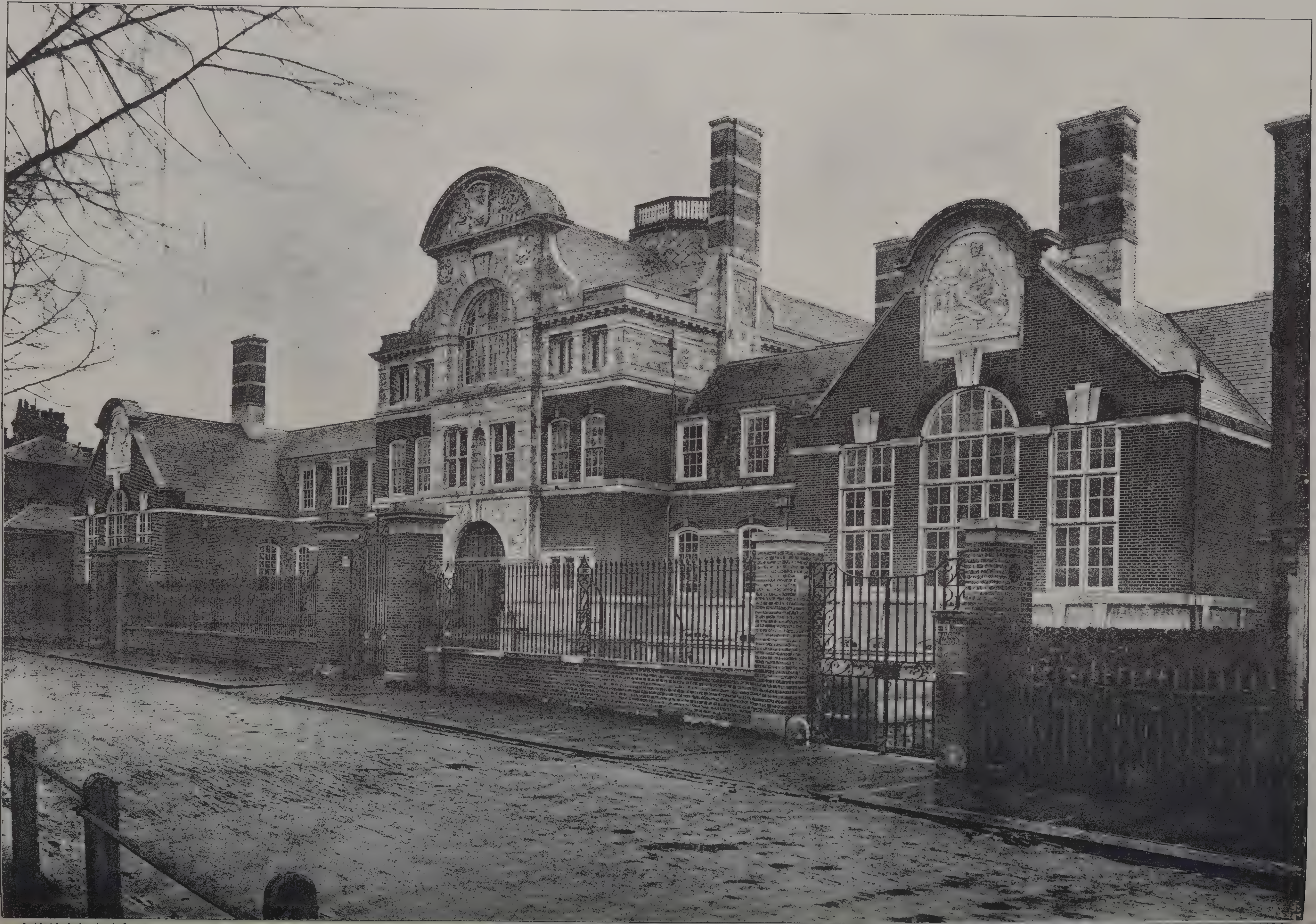
The Committee of the Egypt Exploration Fund w continue next season, under the superintendence of Mr. Naville and Mr. H. R. Hall, of the British Museum, th excavations at Deir-el-Bahari, on the site of the elevent dynasty temple of Mentuhotep, which was discovered tw years ago. Dr. Grenfell and Dr. Hunt will revisit Behne in search of papyri, and Mr. N. de G. Davis will contin the survey of the tombs at Tel-el-Amarna for the Archæ logical Survey.

The Municipal Officers' Association held a conferen of Local Government officers at the Inns of Court Hote Holborn, on the 29th ult., with the object of constituting central body which should endeavour to secure superannu tion and fixity of tenure to all officials under local auth rities in the United Kingdom. It was decided to set abo the formation of such a body.

Mr. J. H. Richardson has prepared plans for the enlarg ment and alteration of the Hammersmith town hall, Lo don, W., at an estimated expenditure of 19,700*l.* Th accommodation provided on the ground floor includes ne suites of offices for the town clerk's (general) departmen the borough accountant's department and the medic officer's department. An additional room is shown for th surveyor's department, to be used by contractors whe examining drawings.

The Local Government Board have written to th Southampton Town Council enclosing copies of the orde authorising the modification of the Improvement Schem under the Housing of the Working Classes Act, 1890, whic was confirmed by the Southampton (Housing of Workin Classes) Order, 1895, so as to allow the preservation of a ancient vault known as "The Undercroft," and to enable th Town Council to provide dwellings for persons of th working-class on a site or sites outside the area comprise in the scheme.

The Architect, Aug: 4th 1905



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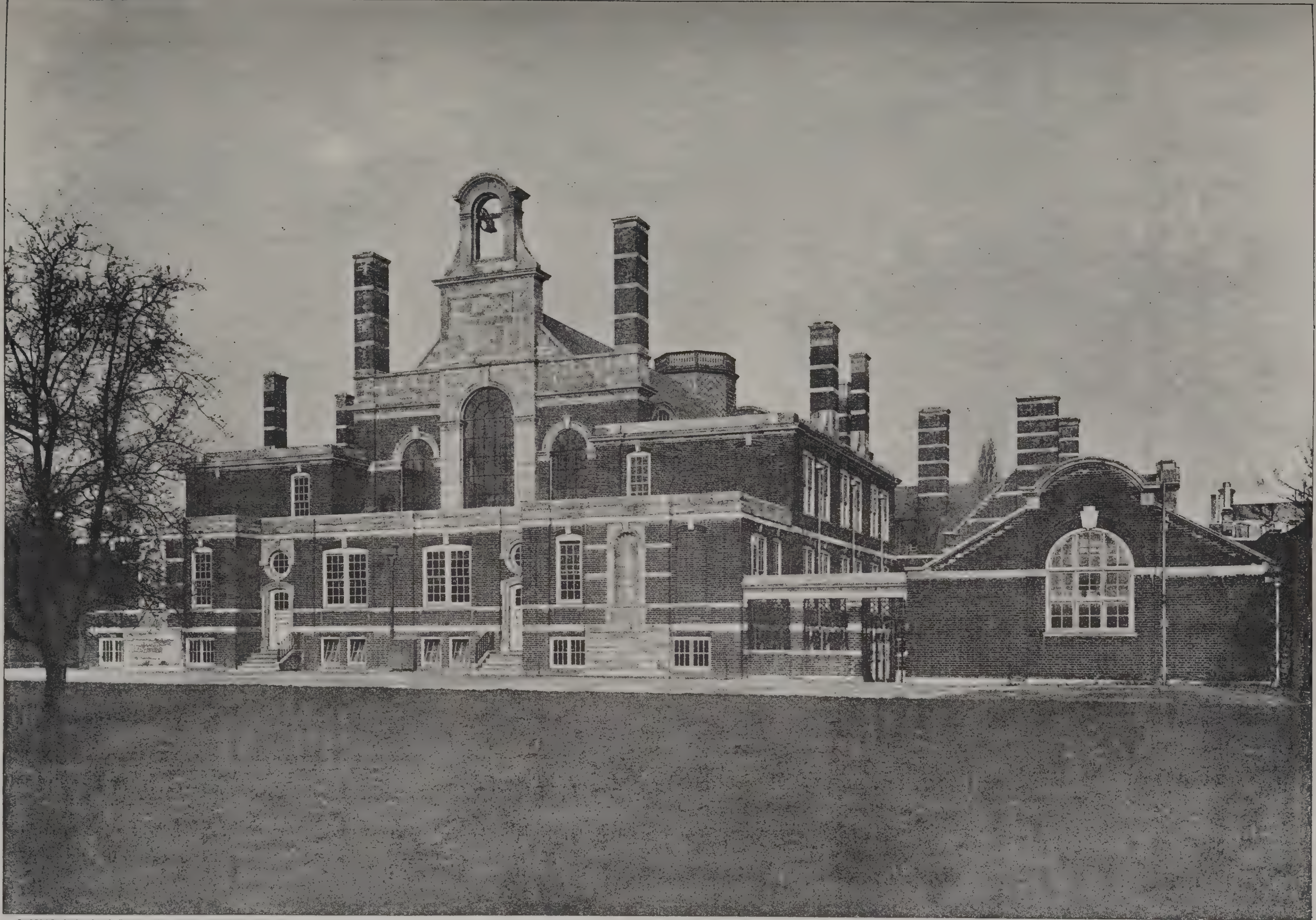

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ST. PAUL'S GIRLS' SCHOOL, BROOK GREEN: BACK VIEW.

GERALD C. HORSLEY, Architect.

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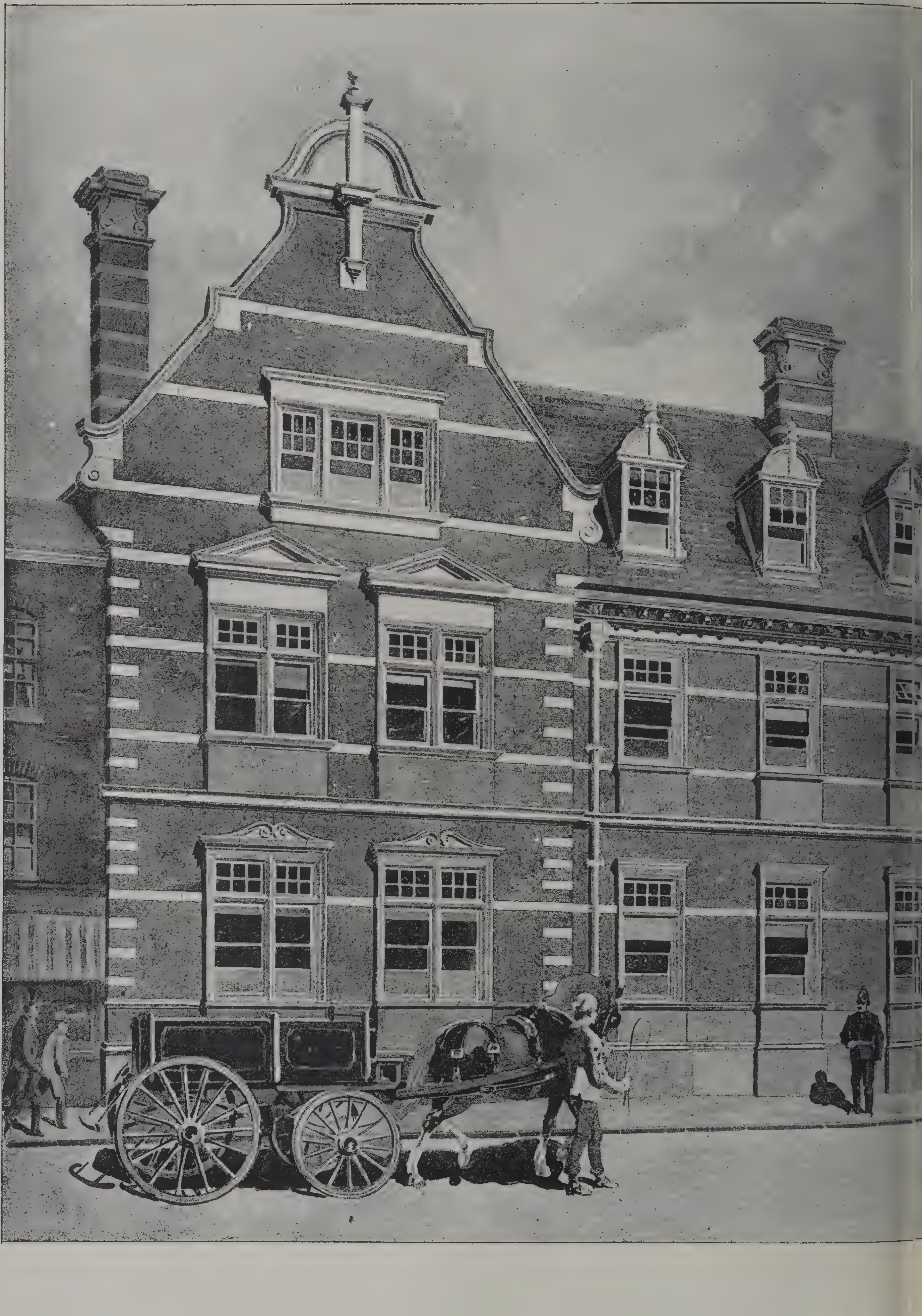

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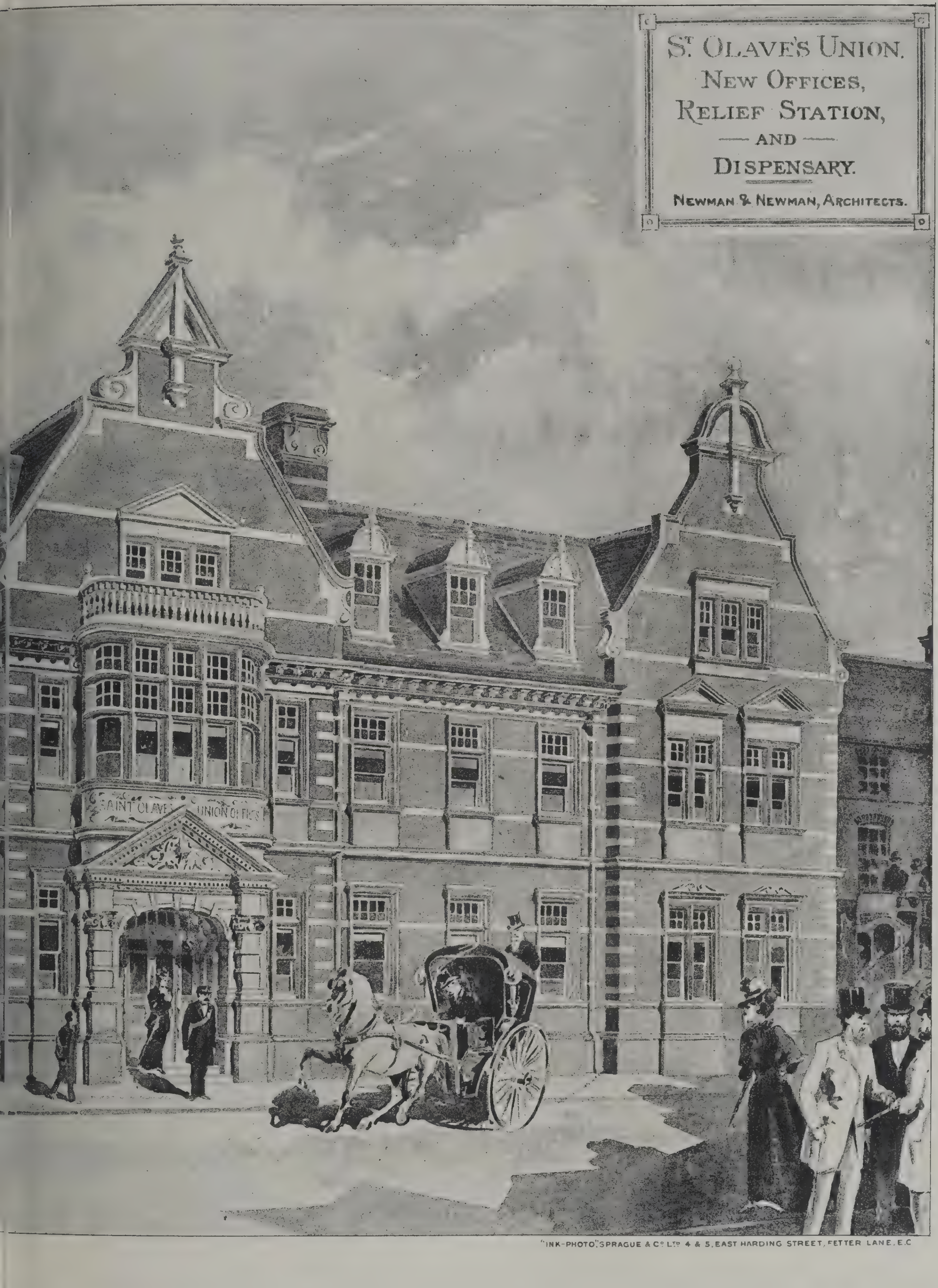

St. Olave's Union.
New Offices,
Relief Station,
— and —
Dispensary.

Newman & Newman, Architects.

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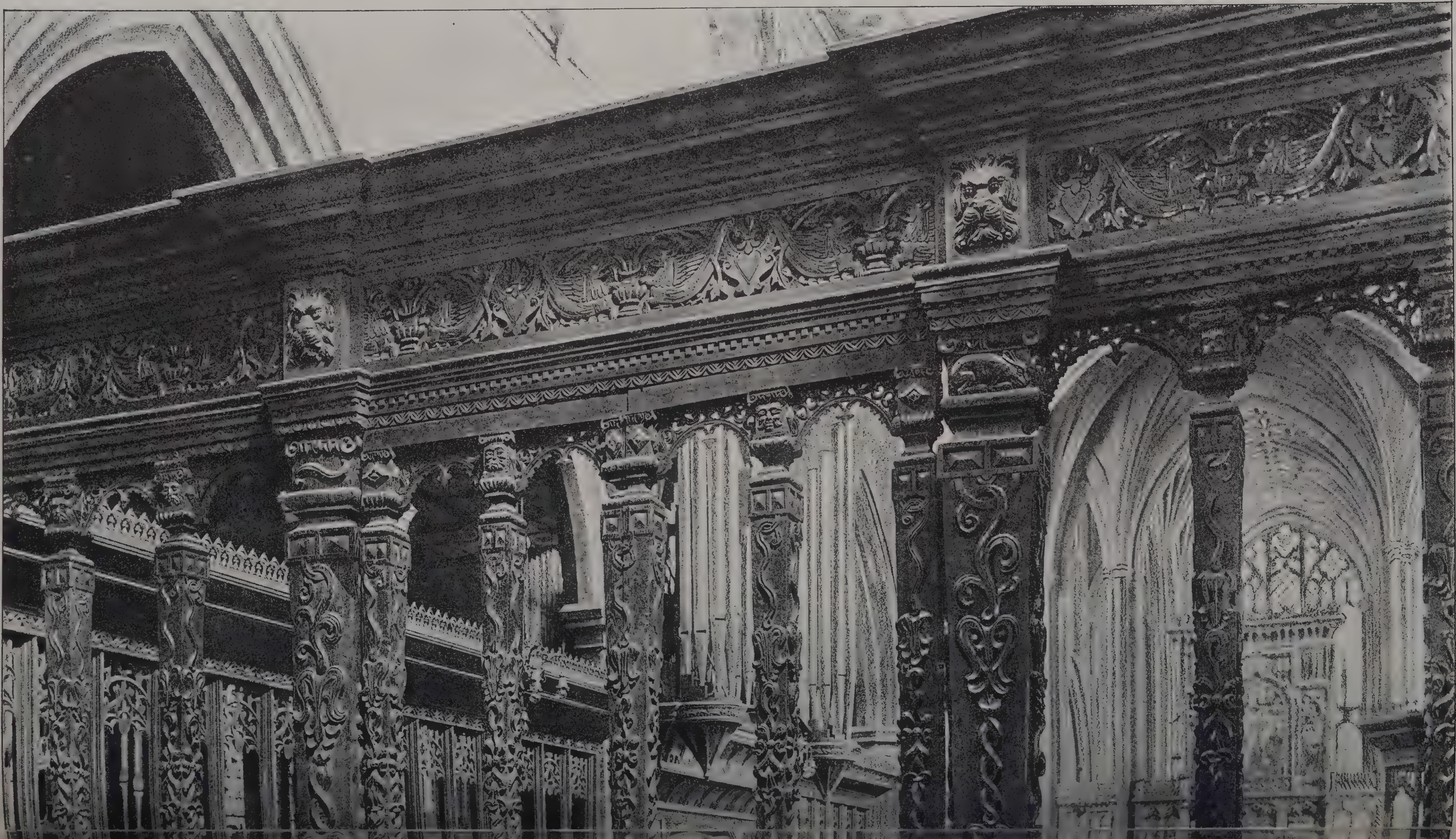

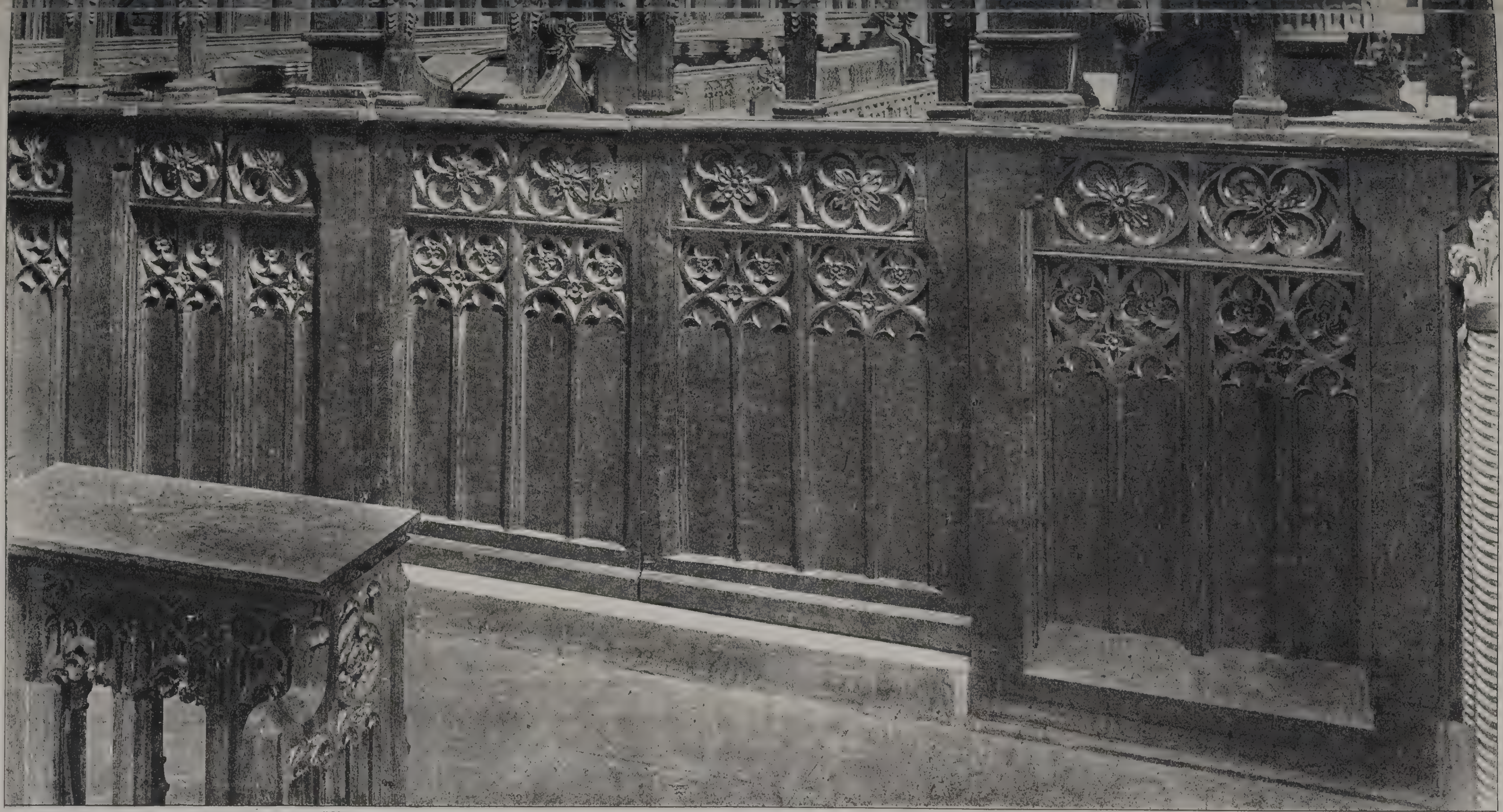

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CATHEDRAL SERIES, No. 531.—WAKEFIELD: DETAIL OF SCREEN

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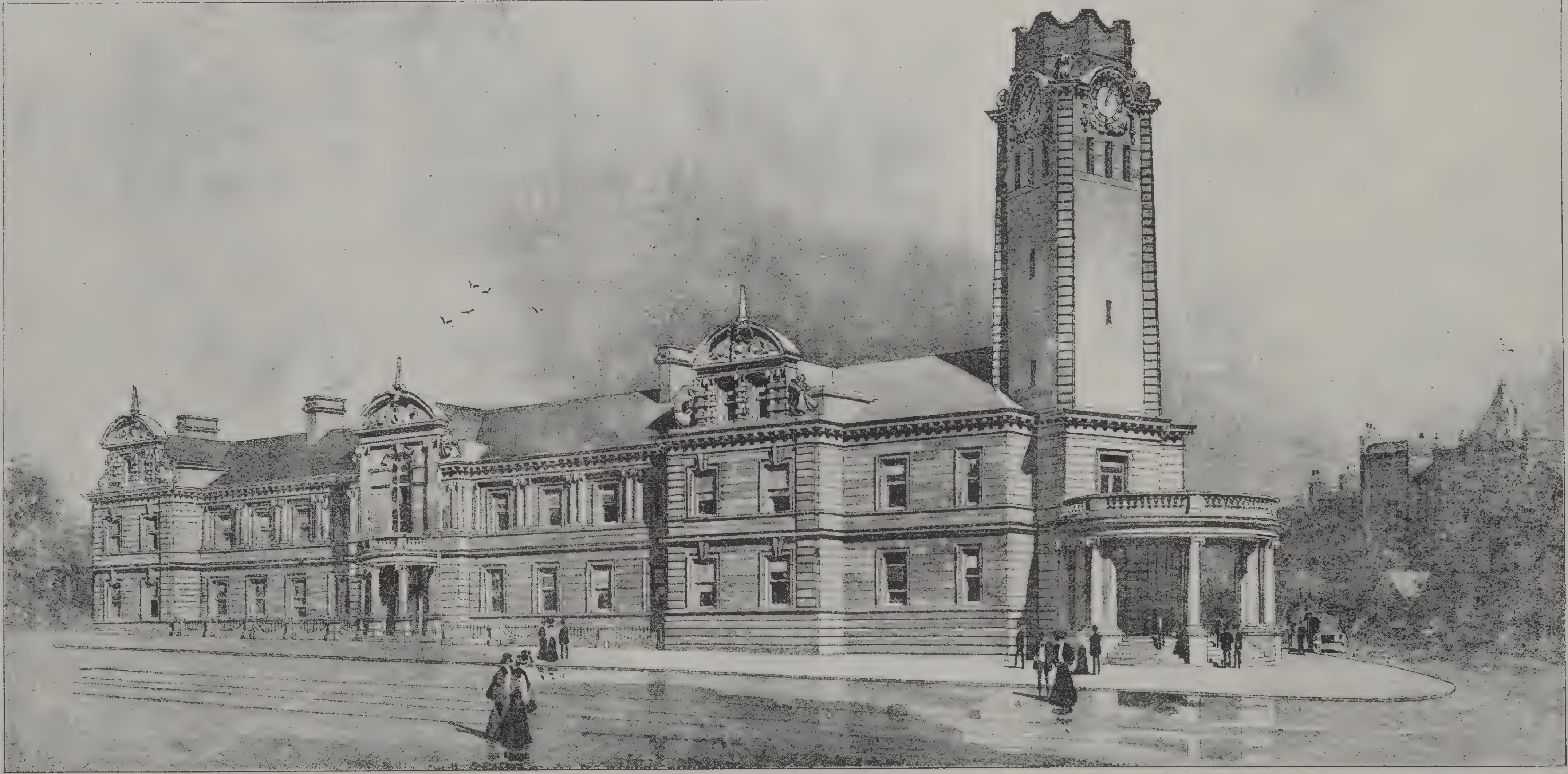
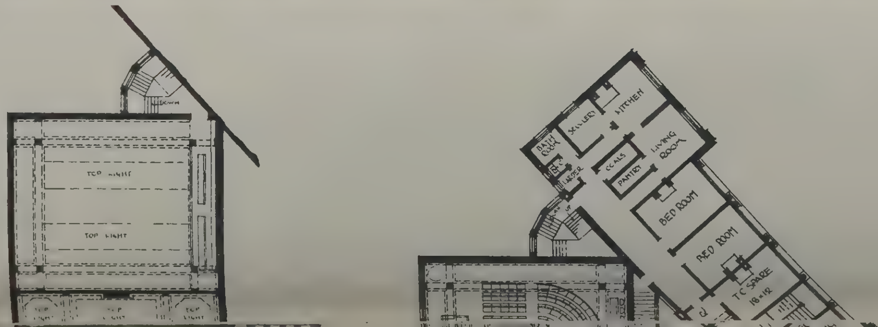
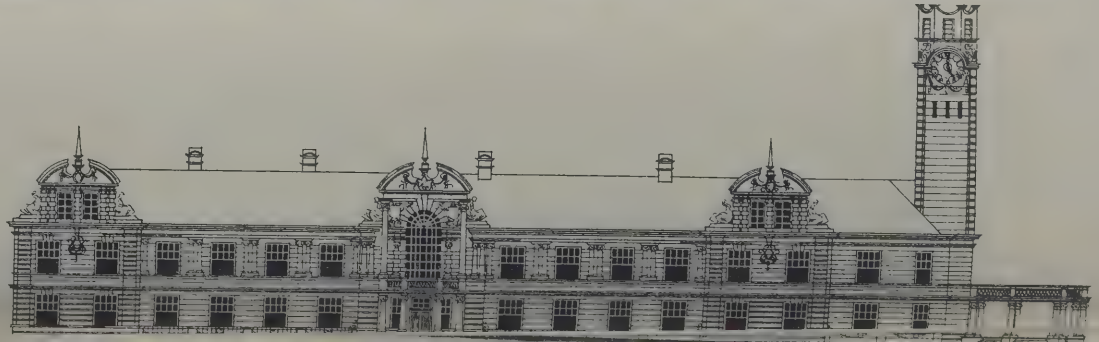
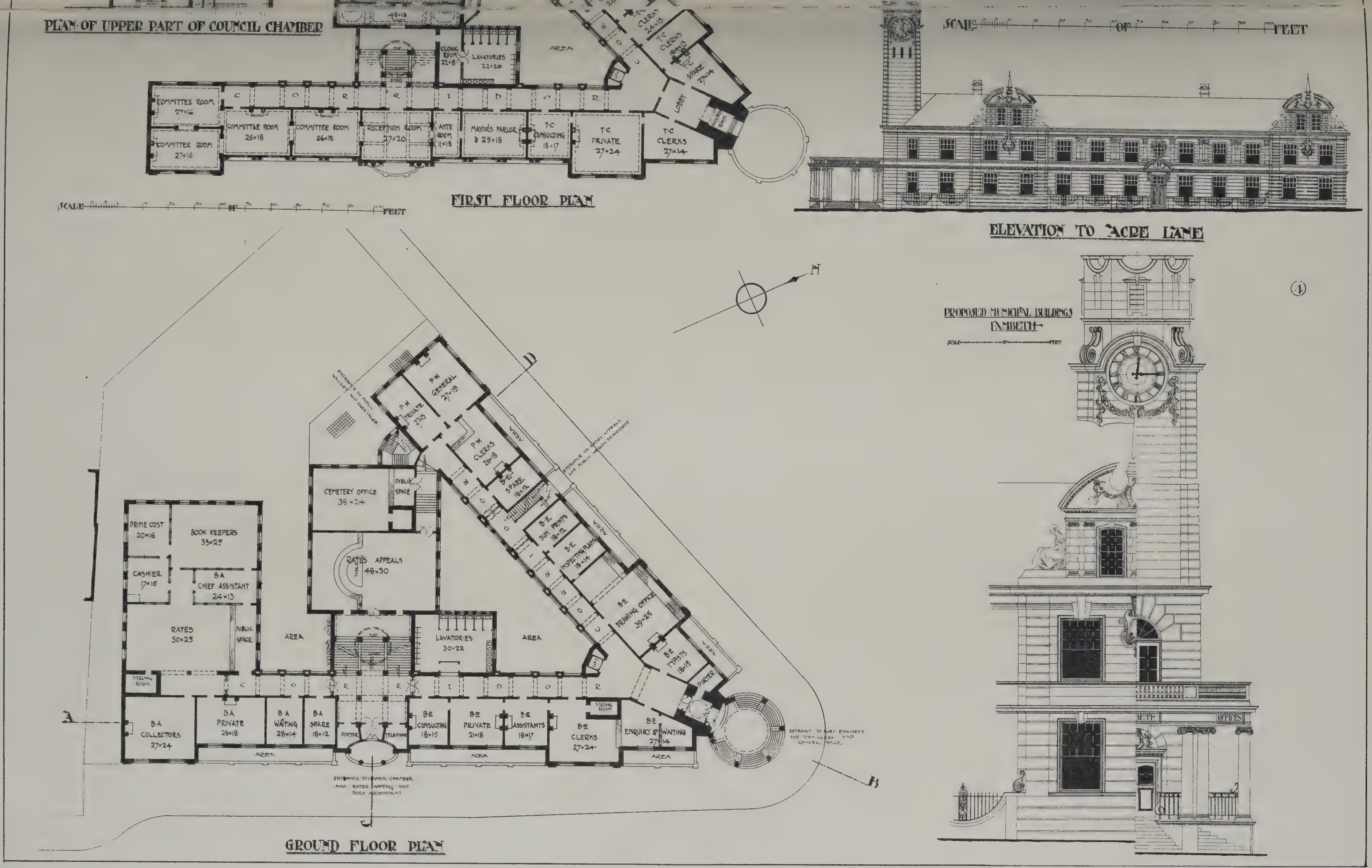



TOP LIGHT
TOP LIGHT
BATH ROOM
SCULLERY
KITCHEN
LIVING ROOM
COALS
PANTRY
LARDER
BED ROOM
BED ROOM
T.C. SPARE
18×12





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DESIGN FOR MUNICIPAL BUILDINGS, LAMBETH.

By ARTHUR J. GALE, F.R.I.B.A.

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The Architect.

THE WEEK.

We referred last week to the action taken by Messrs. Wise, builders, against the asylum committee of Canterbury and their architect, Mr. Jennings, with respect to a final certificate. After Mr. Wise gave evidence, and before he was cross-examined, his counsel said they had agreed to judgment being given for the defendants with costs. All imputations against Mr. Jennings were withdrawn, and the question of extras and omissions was to be referred to the Royal Institute of British Architects. Mr. Dickens, for the defendants, said that in half an hour's cross-examination it could be shown that plaintiffs had been overpaid 1,500*l*. Mr. Jennings had said that the plaintiffs must either repay the money or work it out. There must be judgment for the defendants with all their costs, and an absolute withdrawal of any charge of fraud made against Mr. Jennings. His Lordship declared that counsel for the defendants was justified in what he had said. If the case had been proceeded with some interesting points of law would have been raised. The action has, however, ended in a fiasco. The plaintiffs will have to pay a large sum without deriving any benefit from the expenditure. Mr. Jennings not only has been proved to have acted in the interests of his clients, but he has acted fairly towards the contractors, and if he used the expression, "Get out of my office, you pair of blackguards," there was justification for his anger.

Through one of those mysterious effects of public opinion for which there is no accounting, Mr. Justice Grantham has been elevated into a hero because he declined to employ a surveyor to prepare plans for submission to a rural council, and instead sent in sketches of his own. Only by the most liberal interpretation could they be considered as complying with the by-laws, and the Council did their duty by rejecting them. Mr. Robert Williams, architect, who was one of the witnesses on behalf of the Council, in conjunction with Mr. Knee, secretary of the Workmen's National Housing Council, has brought out a small book entitled "The Labourer and his Cottage." It is produced, the authors say, "in the hope that it may help to stem the tide of revolt against what is termed the 'tyranny of by-laws,' by which is meant the extremely small amount of control the public can exercise over the health of a district by and through its local authority." Anyone who wishes to study the question of the labourer's cottage in the country should not fail to peruse the pages. The people who are to inhabit dwellings near fields should be allowed to make some suggestions about the accommodation provided, and a statement which was read before the President of the Local Government Board is repeated in the book. Among the illustrations are facsimiles of Sir W. Grantham's "plans" as presented, and adaptations of them which would have complied with the by-laws without requiring a large outlay on the production.

The Municipal Council of Paris appear to have been rather suspicious of the lovers of art who had resolved to make the *musée* at Bagatelle one of the attractions of Paris. In the first place, those who had offered works of art and those who contemplated doing so were mainly aristocrats; and, secondly, there seemed to be a desire to make English art paramount in the collections. No doubt the donors are annoyed, but if they cannot adorn the walls of Bagatelle the Louvre is only too eager to accept their gifts. The consequence is that Sir Thomas Lawrence's *Portrait of Miss Foster*, which was purchased by subscribers, a view of the Pont Neuf, Paris, by Turner, and a portrait of a gentleman by Reynolds have been sent to the Louvre. It was stipulated that the Turner should be hung between the two portraits, and that the origin of the gift should be stated. Baron Arthur de Rothschild has presented two works by Teniers, four by Greuze and one by each of the following artists:—Ruysdael, Hobbema, Backhuyzen and Wouverman. The Society of Friends of the Louvre have purchased a *Pietà*, which is supposed to be an example of the School of Avignon and dating from the fifteenth century. The Government has purchased a portrait of M. Ravaisson-Mollien, who was conservator of the Louvre. It is by M. Maillart, some of whose paintings have been reproduced in this Journal.

Ribbons and crosses of the Legion of Honour are, if possible, too common in France, for they decorate the figures of men whose claims it would be difficult to discover. On the other hand, men who have rendered the State valuable services are not considered worthy of the fragment of coloured ribbon. Anyone who has visited the "Musée historique Lorraine" at Nancy will agree that it is one of the most interesting of those in the provinces. It occupies the old palace of the dukes, and the equestrian relief over one of the doorways has been repeatedly drawn as an example of Renaissance sculpture. There are specimens of prehistoric work from the locality, and much else which suggests the importance of Nancy during several centuries. For thirty-five years M. Lucien Wiener has been conservator of the museum, and it is only now he has received the honour which many men have gained easily.

Visitors to the United States used to be shocked when on reaching places which were remarkable for natural beauty they saw the most attractive spots utilised for advertisements, and usually of quack medicines. Of late years there has been some abatement of the evil, especially where municipalities have control of the places. But the desire of the courts to uphold the rights of individuals occasionally interferes with the wishes of the community. A case of the kind was lately decided in the Supreme Judicial Court. Near the Revere Beach Parkway, New York, is a signboard 40 feet long and 7½ feet high, and the letters are painted in black on an orange ground. The Metropolitan Park Commission sought to remove it, having powers to make reasonable rules governing signs set up on or near the property of which they have charge. The right to erect the sign was sold by the owner of the land. The Court decided that to forbid signs which were neither dangerous nor immoral would be an infringement of the rights of property and therefore illegal. The sign is therefore likely to offend the eyes of people during many years.

French artists are not satisfied that the players have been able to anticipate them by founding houses for actors and actresses who have done their parts in the battle of life and whom destiny compels to retire. A project of a similar kind has been for some time under the consideration of the "Société des Artistes Français," and it is now likely to assume definite form. What is contemplated by M. Tony Robert-Fleury, the president, and the Council of the Society, is at first to make provision for about twenty artists. By prudent management since the Society was formed capital has been acquired, and a sum of about 600,000 francs can be allocated to the good work. A legacy of 400,000 francs is also available for the purpose. It may therefore be assumed that the necessary preparations for commencing the work will soon be completed. It is to be regretted that among the painters, sculptors, architects and engravers whose works have been seen in the Salon, there will be no lack of applicants for hospitality.

IRISH ARCHÆOLOGY.

ALTHOUGH the present and the future are exacting in their demands upon the attention of men, it is remarkable that of late years the past has received unusual consideration. One reason for this is, no doubt, owing to the theory of evolution. If the world has been advancing there is satisfaction in being assured that in many ways people in former ages were possessed of fewer advantages than we enjoy. It is also interesting to discover, if possible, a family likeness between what was done by early inhabitants of a country and their successors. In that way relations are discovered of which there was no ordinary historic evidence. It will be found that in Europe, at least, most peoples have had characteristics which were at all times unlike those of their neighbours.

An illustration of this fact is supplied by the evidence which is forthcoming in Ireland. As an island it was often invaded, and, on the other hand, the natives invaded other countries. We therefore find that in the Celtic arts especially there are often resemblances with the products of continental peoples, and in some instances it has been found that forms which are met with in Ireland can be traced to the East. But even in the adaptation there was local influence exercised. In matters of a different kind we also find characteristics which to a great extent may be considered as originating in the nature of the Irish race. The last number of the *Journal of the Royal Society of Antiquaries of Ireland* affords evidence of some of those peculiarities.

A paper on "The Ancient Highway of the Decies," by the Rev. P. Power, is interesting because it suggests some of the primitive ideas of the Irish concerning roads. Just as the story is often repeated of the chapter on snakes in Iceland, which began with declaring there were no snakes in Iceland, it might be said with almost as much truth in a book on Irish roads that there were no roads in ancient Ireland, *i.e.* roads which were properly constructed. Roman roads were introduced as a means to establish the sovereignty of the city over the best parts of the world, but as evil is often made to serve useful purposes, the great roads became efficient agents in civilisation or evolution. We have benefited in England by the Roman roads, and projects occasionally are issued for their revival as a completed system which motor cars could pass over. Unfortunately the only representatives of Rome who visited Ireland were missionaries, not engineers. Roads were looked upon by the rulers of the numerous principalities as aids to invasion, and in consequence the construction of them was neglected. For a long time English influence was only exercised in towns around the coast; a campaign in the interior was both difficult and dangerous to carry out. Mr. Power admits that in early Ireland, and often too in a much later Ireland, the line of communication was allied to the track which is used in the Australian bush. He goes on to say that "across bogs, and generally in soft yielding soil, it would be necessary from time to time to elevate the track somewhat. Trunks of trees stretched crosswise and then overlaid with brushwood made the readiest and best embankment. The ancient engineer favoured a bee-line, or the nearest practical approach thereto, for his road. A river in his path necessitated perhaps a slight deviation to suit the ford; a mountain-chain required a corresponding bend or curve to catch the gap or pass."

The track which Mr. Power describes was known in Irish by the name of "the track of St. Patrick's cow." It is traceable from Cashel to Lismore, a distance of about 50 miles, and the author has for several years studied the vestiges which remain. It was supposed that the road was made in the time of St. Patrick, but Mr. Power considers it dates from a somewhat later time. Assuming that it has not existed for more than twelve or thirteen centuries, it is remarkable that any section should continue to exist. A part of it crosses a mountain at a height of about 1,880 feet. The description given is as follows:—

> Its appearance varies. In parts it might, at first sight, be mistaken for an ordinary turf track; in others, where grass or heath covered it, it bears the impress of hoar antiquity. In general it is a slight depression in the earth, say 7 feet in width, flanked by grassy banks from a few inches to a couple of feet in height. Towards the summit, where the ground is unbroken, it assumes the appearance of a grass-grown carriage-drive of considerable width. From the county boundary forward to Lismore definition of the track is clearer. Sometimes it shows as a grassy ditch between two high banks, at others a ravine excavated by winter floods, and at others again (on the level) a ribbon-like trail in the closely cropped heather. Before we cross the boundary into the county of Waterford it may be mentioned that the hollow, to avoid which the "Rian" has made a slight detour half a mile from the summit, is called "Cam na Beerna."

From the maps given it is manifest that the road-makers of a later time avoided the ancient track, and preferred to lay out their lines parallel with the old route. It is generally supposed that road-makers have no reverence for antiquity, but there is no doubt respect was shown in this case. In parts where the track was superseded there are now no signs of it, but some of the older inhabitants of the district remember it. One of the remarkable circumstances connected with it was that there was a religious establishment wherever the old road crossed a river. If the ecclesiastics, who were among the most important personages in ancient Ireland, could only secure the making of so simple an aid to communication, it is not difficult to imagine how imperfect were what we might call the secular roads of the kingdom. We hear of kings founding seminaries and rewarding bards with gold, but there is no record that any of them gained the title of road-maker, although one was called "the just judge," another "the acceptable," a third "the law-giver," while others were named after the number of their victories or hostages. Indeed, the material improvement of Ireland was for centuries neglected.

A paper by the Rev. S. Malone relates to Scattery Island, which is found near the mouth of the Shannon, opposite the town of Kilrush. It continues to have some importance, for a lighthouse is established on it for the guidance of ships going to Limerick. In a remote and semi-barbarous age an island of that kind would be desirable site for a religious settlement. St. Senan, who was a great missionary, retired to the island, and was consecrated Bishop of Iniscathy. He claimed jurisdiction over the monastic houses he had established and the districts around them. But afterwards that was considered an interference with the rights of other bishops, and in A.D. 1110 the suppression of Iniscathy was recommended by a synod. It continued, however, until about 1188. The possessions of the see on the mainland were divided and assigned to the adjoining dioceses, but who was to have the island itself? In 1189 a charter was granted which described the island as belonging to the diocese of Killaloe. One of the nobles, however, a De Burgo, claimed that, although subject to Killaloe, the island was given as alms to Clare Abbey. He was a man who was notorious for taking spoils from churches and abbeys and for devastating buildings. Another inquiry was held in 1201, by which the island was assigned to Limerick. One result was that during several years the island was a subject of contention among ecclesiastics. After being alternately held by Limerick and Killaloe, the Pope in 1390 declared the island to be in the diocese of Killaloe, but a century afterwards the Bishop of Limerick claimed it as part of his see. As the author says:—

> Iniscathy, with its 100 acres, has been made a matter of more dispute than many a thousand acres of unhistoric soil. On its shore grappled the broad-bottomed vessels of roving pirates with the "currach" of the Gael. On it the sword of the Viking bickered with the "skean" of the Irish kerns. On the island continental and Irish schools of

asceticism met when boatfuls of holy pilgrims came to St. Senan. Scattery exhibits morally and physically traces of a rich historic past. Its perfect round tower and seven churches, the "bed" of St. Senan, the holy well, the sea-monster "Cathach" banished by St. Senan, and living in legendary lore of Oriental imagery, the many bright lights over Erin paling before the dazzling blaze from Scattery, as seen in vision by St. Caunera, mark it out as richer in associations and more fraught with interest than a whole province cut off from the past.

The action of De Burgo was likely to be imitated by many of the Anglo-Norman nobles. They had preferences for the monasteries in their district, and they wished to have those at a distance subservient to the house which they protected. Cong is in a picturesque district in the county Mayo, where the De Burgos one time ruled, but the abbot of Cork, which was many miles distant, was bound to pay every year to Cong sixteen half-marks for gilding the chalices, and whenever there was a new abbot in Cork his vestments were to be handed over to the treasury at Cong. Every ship that entered the harbour of Cork was bound to give a bell-rope for the abbey of Cong. The monks must have had an abundance of ropes, for all the ships entering the harbour of Kilmore or the river Moy and all those entering the harbour of Dunmoy were bound to pay a similar tribute. The entries throw a new light on the history of monastic arrangements.

All who are admirers of Heinrich Heine are aware that he wrote a review of the life of Thomas Reynolds by his son. Reynolds was one of those men who, as Hamlet says, has left a "wounded name" to posterity. He held a high position among the United Irishmen, but his vanity led him to speak in a mysterious way about what was coming, and the information he gave foiled the conspiracy. He was a representative of the MacRannals of Leitrim. The Rev. Mr. Meehan writes in the *Journal* about a diary which James Reynolds kept in the years 1658-60. The Reynolds country is particularly interesting to archæologists, for it contains more rude stone monuments than any other county in Ireland. As it is believed there was fighting in the district since about 2,000 years before our era, a great many memorials were no doubt required. At Carrowmore it is probable there were 100 cromlechs, for in 1837 sixty-three had survived. The MacRannals appear to have been long on the English side. The grandfather of the diarist was a captain in the Elizabethan army. He erected a castle on an island in Lough Scur. He was known as "John of the Heads," owing to the number of prisoners he had decapitated. He once invited the neighbouring chiefs to the castle and had every one of them assassinated. His grandson, on March 21, 1658, records that he bought a blank book in Fleet Street which he used for a diary. He was a nephew of Sir James Ware, the antiquary, who appears to have acted as the Mentor of the family. The diarist contrived after the Restoration to obtain over 10,000 acres (Irish) of which his family were deprived at an earlier time. The MacRannals were a type of many Irish families in troublesome periods. Claiming to belong to the race of the mythical kings Milesius and Heremon, they were willing to appear against the English power or for it as occasion served. It is this duplicity which puzzled Heine, and although hating England, he had to declare that Reynolds was "einen etwas schwachmuthigen Helden." He, however, resembled others of the race.

Dr. MacDowel Cosgrave possesses some engravings of Dublin which, with others, he describes. The earliest shows Sidney leaving Dublin Castle in 1581. It is a little historical picture which betrays German origin. The castle is unlike the present group of buildings. The Poddle or a moat ran in front of it, over which was a bridge, and above it were the heads of three Irish chiefs. The moral is pointed by the words :—

> These trunckless heddes do playnly showe eache rebeles
> fatall end,
> And what a haynous crime it is the queene for to offend.

A reproduction is given of a view of Sackville Street in 1756. It is not recognisable, for there is an entire absence of shops, and the middle part of the street is occupied by a mall. The length was 1,050 feet, breadth 150 feet; the mall occupied a space 800 feet by 50 feet. Another shows College Green in 1779, with the Volunteers firing. The plate of Parliament House in 1784 was engraved before the adjoining buildings were removed to make room for the Corinthian entrance to the House of Lords, which is now walled up, as well as for opening Westmorland Street. A view of the Rotunda reveals the value of the improvements introduced by Francis Johnston at a later time. The whole of the papers are interesting, and it is satisfactory to know that several gentlemen are utilising their local knowledge for the benefit of archæology.

TRANSFORMATION OF PARIS.

In some American cities, although the straight streets suggest "magnificent distances," and might be supposed to be the shortest which can be laid out, there is a desire to have a different disposition of them. There is no intention apparently to substitute curves for right lines, but it is sought to have streets converge on certain points or open spaces. It must not be supposed that all the people are in favour of change. Owners of property who apprehend that sales will be compulsory are desirous that streets should remain as they are at present, and they are supported by representatives of officialdom. There is certain to be a contest, and advocates of change naturally endeavour to obtain as much support as they can for their principle.

We suppose it is with that object that the American Institute of Architects have presented a translation of some articles by M. Eugène Henard, architect, on the "Transformation of Paris." The daring revolution which M. Haussmann accomplished has incited several projectors to attempt a similar remodelling of the city. The time does not suggest the necessity of making provision against another revolt, and therefore strategic considerations can be set aside. But there are districts which it is easy to imagine would be improved if they were speedily Haussmannised. In spite of the immense outlay, Paris is still a city of contrasts. There are wide thoroughfares, but they can be regarded as boundaries for streets which vary in narrowness. Generally speaking, the great thoroughfares are carried to a junction with others of corresponding width. Nevertheless, when we find that the Avenue Friedland and the Boulevard Haussmann, which are of undoubted importance, end, like Irish roads, "nowhere," we have a suggestion that authority in Paris is not always omnipotent. A very few houses if removed would complete one of the longest lines of communication in the city, but the Municipal Council have not the courage to undertake the necessary expense.

Of late years another point has to be considered. Paris has its underground railway; and although people may use it constantly, shopkeepers, who are most influential citizens, are beginning to doubt whether it brings them purchasers. Tramways and other means of communication on roads facilitate the coming and going of customers generally, but railways have a tendency to serve certain parts in preference to others.

M. Henard proposes to have no less than sixteen new avenues radiating from the Louvre on the right bank of the Seine and two on the left bank. In some cases the streets would be new, in others the thoroughfares would be widened or otherwise altered. With these eighteen radiations M. Henard says the plan of Paris could triumphantly sustain comparison with that of any other capital. The principle by which he was guided is thus explained by him :—

> One can easily conceive a general plan more regular, traced according to rigorous principles and a faultless geometry; but would it be greatly superior to the one we

have set forth, relying as we have on historic traditions, on methodical observations of facts, on the necessities of circulation, on comparisons of plans of foreign cities and upon respect to beauties already acquired? We do not think so. The proposed arrangement of new thoroughfares is elastic and supple, in equal measure to possible disparagements whenever the straight alignment might become dangerous to the existence of monuments or known sites. In managing thus we have, in order to modify the plan of Paris, but been inspired with the examples which nature itself offers in the evolution of living organisms. In considering the growth of one of the trees of our forests, one plainly feels that unless some perturbing cause intervenes the disposition of its component parts would be perfectly regular. From a trunk, straight and cylindrical, should spring at equidistant points the main branches, equally inclined; these subdivide themselves into equally balanced branches, the whole of which gives the impression of a bouquet of verdure, absolutely symmetrical. One finds in effect, here and there, these objects absolutely faultless; but look to one side—here is another tree whose growth was obstructed or cramped by diverse causes; that branch was deviated by a neighbouring tree, this other twisted by a wind storm; a rock has deflected this great root, and the mutilated trunk is covered by gibbosities; the ideal, theoretical plan has been modified in numerous details; the general idea persists nevertheless. Is this tree any uglier? Much to the contrary; and its form, tormented by accidents and storms, is but more beautiful and majestic.

As to the objection which arises from the existence of the Metropolitan, M. Henard says the railway only serves for pedestrians, and has not diminished the number of carts, trucks, business vans and private carriages. He considers that the Metropolitan is inferior to the automobile, which has already advanced so far, although only just born. He looks forward to the day when automobiles will be available at cheap rates, and instead of omnibuses there will be public or common automobiles. Then the traffic on the streets and boulevards will be so developed, it will be necessary that the width of the boulevards should be increased from 30 metres to 40 metres. M. Henard, in the extract we have given, will be seen to be figurative in his logic, and he believes the citizens in the suburban districts will be glad to vote in favour of the enormous expenditure requisite by saying to them:—In the human organism, when the heart is endangered the circulation of the blood is completely compromised; when the heart beats regularly strength and health are transmitted to all the members. To disentangle the centre is to accelerate the movement of the periphery, it is to spread life and riches everywhere.

The Haussmann improvements are calculated to have cost over fifty-three millions sterling. M. Henard's scheme, which would take forty years to realise, would, he estimates, cost forty-eight millions. The new works would be provided for by loans which could be paid off in the time mentioned.

Practically, the problem narrows itself to a contest between electricity below ground and above. A stranger may not consider that some of the new avenues are called for. The Avenue du Palais Royale, for instance, and the Avenue du Temple would lead through the east end of Paris where there are already roads that are out of proportion to the houses which line them. The Avenue du Richelieu will bring people to Clignancourt, and the Avenue de l'Opéra will lead to the Batignolles, while the Avenue du Palais Royale furnishes another route to Neuilly. On the left side of the river the Avenue du Richelieu is continued to Montrouge. A new route, called the Avenue du Carrousel, would be connected by a bridge across the river and would lead to Vanves. The present Avenue d'Orléans, the Avenue des Gobelins and the Avenue d'Italie would be widened.

Paris has an amazing power of resuscitation, and it might be able to recoup itself for the sum expended on the new avenues. There is no doubt the new routes would work a transformation in the life of Paris. At present some of the streets are crowded to an inconvenient extent, but the people seem to enjoy the sensation of being, as it were, particles of a large mass. The new roads would all bring them to the fortifications, or, in other words, some of them would lead into country districts. That would be one advantage. Another would be the affording employment to the workmen of Paris. There can be no question that one of the motives which inspired the Haussmann improvements was to keep down disaffection among the labouring classes. The call for a large outlay on that ground may not be urgent at the present time, but it is beyond doubt there is much distress in Paris, and public works are a panacea for the evil which the sufferers believe they can claim as a right.

Paris has for many years offered itself as a subject for testing all sorts of theories. It was at one time supposed to be a model which the world was to accept. But when colossal schemes of improvement are declared to be a necessity the authorities of other cities should hesitate to imitate the Parisians until the beneficial effects of the new works have become manifest.

CANALETTO'S VIEWS OF VENICE.—III.

In arranging his views of the Grand Canal, Canaletto was well advised in his treatment of the Ponte di Rialto. Many associations, and especially the reverence to the place known as the Rialto, have given interest to the structure which Antonio de Ponte designed at the close of the sixteenth century. But, useful as the bridge is in connecting Eastern and Western Venice, it is an obstacle to the view. It is true the Grand Canal makes a turn at that place, but the canal must have been seen to more advantage before it was erected. In the illustration published last week the bridge was the termination, and could only be shown on a very small scale. In the view given this week Canaletto wisely starts on the other side of the bridge, which may be said to have been omitted from his panorama. There is a businesslike aspect about the quay on the right, which suggests the importance of the Rialto.

An interesting account of Venice as it appeared in 1834 was written by George Wightwick, architect, the author of "The Palace of Architecture" and various other books. He was rather captious; and in Venice, as in other Italian cities, insisted on his right to judge and condemn if necessary, although he was an English provincial architect and little known outside Plymouth:—

> A few miles from Ferrara we embarked in a small boat for Venice and sailed down the Po to Fornaci, from whence a tedious line of canal conducted us into the Adige, after which, crossing the Brenta, we entered the lagunes of Venice at break of day. Here we see towns and forts which seem to float, and men (walking, as it were) in the middle of the sea. Next to Venice itself, however, the most worthy object in the lagunes is a huge marine wall, or breakwater, several miles in length.
>
> "Is that the tower of St. Mark?"
>
> How eagerly we snatch at the first and faintest glimpse of a strange city so interesting and magnificent as Venice. In the direction by which we approached, the main part of the town was veiled from the view by an isolated portion of houses, nor was it till we suddenly entered the Canal della Giudecca that Canaletto's splendid promises were in any degree realised. The *coup d'œil* was astounding.
>
> Venice is as degraded in its fall as it was mean in origin. A set of unfortunate wretches, driven by Northern barbarians into the marshes of the Adriatic, build them a town, grow great under an established government, become the masters of the seas, the monopolisers of commerce, the munificent patrons of art, and then sink into more than their pristine insignificance.
>
> Of the former greatness of Venice little now remains but its architectural magnificence—monuments standing in memory of the past, in reproof of the present. With the banners of Cyprus, Candia and Morea is also lost the flag of individual liberty, and the once wedded spouse of the Adriatic now exists but as the slave of a despot. When the French were in possession of Venice they improved the

city, and though they laid heavy impositions on the inhabitants spent the money amongst them. The Austrians impose, like their predecessors, but do nothing in return. The amount of impost is weekly boxed off to Vienna, while the Venetians are soothed into peaceful acquiescence by the "lascivious breathing" of a German band.

I have mentioned the splendid *coup d'œil* afforded by the grand quay on first entering the Canal della Giudecca. With the old ducal palace and perspective of the piazzetta forming a centre piece, the eye glances right and left upon the architecture of Sansovino, Scamozzi and Palladio; while the noble canal with its vessels and gondolas, rapidly darting to and fro, give life to a picture of the most fascinating variety.

The Square of St. Mark as a whole is magnificent, though the great tower and church have little to recommend them on the score of taste. They, perhaps, act as a foil to the more regular and legitimate architecture of the piazza—and so far are well enough; but looking at the church as dependent on individual merit alone, we place it even below the Pavilion at Brighton. It is composed of the richest material, covered with specimens of the most laborious workmanship; but though enriched with polished marbles, bronzes, gold and mosaics, it is mean in effect. Almost every principle of architecture is here violated. Overhanging solids and massive columns supporting nothing are observable in all parts, and the consequence is, as may be readily supposed, a constant deviation from right lines and perpendiculars. Some of the carving is very delicate, and one of the mosaics in the principal front remarkably brilliant. The Capella Zeno contains an altar of marble and bronze, which also claims much admiration.

The Royal Palace does credit to its architects—it would have honoured ancient Rome. To compose a magnificent portico is perhaps somewhat easier than people imagine; to decorate a long extended front of three or four storeys high more difficult. Nowhere can we see a more successful union of richness with elegance, or of multiplicity with concord, than is exhibited in the southern façade of the larger and western front of the smaller piazza.

The defect in the Royal Mint (otherwise beautiful) is the cramped aspect of the windows. Nothing can justify the encroachment of their cornices upon the columns which stand between them.

The prison (that is, so much of it as faces the water) is built in a style rather elegant than appropriate. Robust it certainly is, as Doric buildings should be, but there is little to indicate its intended purpose, except the iron gratings to the windows.

The Ducal Palace is equally remarkable for singularity and beauty, for beautiful it is, although not orthodox in every particular. The pier of a smaller arch resting over the centre of the larger one below it is at least allowable "by authority," but an enormous and heavy-looking coffer of marblework, where naked solidity predominates, is by no means well placed on a range of elegant Gothic arches. As a whole, however, it is imposing; and the capitals, with the rest of the ornaments in the lower part, are most exquisitely carved.

A rich and beautiful Gothic archway conducts us into a court where two bronzes, each serving as the head or parapet to a well, deserve particular notice. Ascending the Giant's staircase—on the summit of which the doges were wont to be crowned, and where Marino Faliero was beheaded—we arrive at another staircase called "The Golden," and so proceed to the Senate Hall. Here are awakened those emotions which a Shakespeare has often excited, and imagination conjures up each senator to his seat, while Othello wins his cause or Shylock loses it.

The library (once the hall of the greater Council) is a magnificent room, covered with the pictured history of Venice, and exhibiting a portrait of all her doges save one—Marino Faliero. In the compartment which should have been occupied by the traitor duke is painted a piece of black drapery, bearing on it in golden letters the following inscription:—

Hic est locus Marini Falethri decapitati pro criminibus.

The adjoining room contains a handsome monument in the

A View of the Grand Canal taken from the eaſt Side of the Rialto down to the Palace of Foscari.

shape of a triumphal archway to the memory of the valiant Morosini.

From the Ducal Palace a covered bridge leads over a canal into the prisons. This is the "Bridge of Sighs." It may well be called so—the sighs of the sufferers, and of those who pitied them, have here been echoed "I know not how oft." There are a couple of grated windows through which the day has frequently tendered her last farewell, affording to the passing wretch one glimpse of the all-glorious sun ere death or dungeon received him. The staircase is much worn; is it by the curious or the criminal?

The dungeons of the Inquisition are terrible memorials both of suffering and inhumanity. The walls exhibit many sketches and pieces of writing traced by the miserable inmates; and the spot and means of secret execution are shown and explained by the guide, who likewise points out two holes in the floor through which the blood of the victims escaped into the canal.

Not overlooking the beautiful bronze pedestals which support the three naked flagstaffs before St. Mark's Church, we ascend the Campanile tower and divide our attention between a most extraordinary bird's-eye view, and those reflections upon the fate of Galileo which this scene of his observations must naturally excite.

The Rialto.—What a name is that: how familiar to our ears. "On the Rialto many a time" was the poor Jew "rated about his moneys and his usances;" and here met Jaffier and Pierre to "talk of precious mischief." But even without the magic of association this bridge would have its charm as a singular example of lightness and strength—an ornament to Venice and an honour to Antonio its architect.

Otway has thrown an interest over the Priuli Palace; though, if all be true, a Belvidera could with difficulty be found in Venice nowadays—with still more difficulty a Pierre.

Generally speaking, the churches of Italy serve to swell out the guide books of each city into an octavo of tolerable dimensions. Everything is specified with the most ridiculous punctuality, and adjectives of praise ending in *issimo* abound plentifully "as blackberries." Mediocrity is magnified into excellence, *chefs-d'œuvre* by the same artist are pointed out to you in all quarters, and real splendour leaves the eulogist quite astounded.

If the front of St. Mark's be "sublime," what word will match the façade of York Minster? The man who calls the little church of Giorgio dei Greci "most elegant" would surely be choked by the real beauty of half a dozen of our London churches; and as to St. Martin's-in-the-Fields, if it were San Martino in Venezia, you would be requested to look on it—and die.

The traveller who has seen the principal churches at Genoa necessarily grows fastidious. Florence has a striking example or two—Rome the same; but by the time we arrive at Venice novelty is required as an antidote to surfeit.

The church of St. John and St. Paul is certainly worthy of exclusive notice, both as noble in itself and as a gallery of art. The exterior unfortunately is not finished, but the grand entrance doorway is complete and beautiful in every respect. If this be a specimen of the taste which in the event of completion would have pervaded throughout, we may not unreasonably conclude that the façade had then stood unrivalled in its kind throughout Italy. This beautiful portion deserves in short the minutest inspection.

The interior of the church, though meagre in finish, is grand in outline. It contains numerous monuments to doges, warriors, patriots, &c., and indeed, like our Westminster Abbey, appears to be the chief receptacle for the ashes and memorials of deceased greatness.

The name of Palladio is one which the cicerone delights to sound. He has no idea that the strictest scrutiny can discover a single fault in the architecture of any building erected under his guidance. The churches Redentore, S. Giorgio and S. Francesco have each of them much beauty. They are, however, rather remarkable for elegance than majesty—for a certain chasteness of design than for much boldness of effect.

In opposition to the modesty of Palladio's churches we may bring forward those of S. Moise and S. Zobenigo, which present an exuberance of ornament really astonishing.

Venice, in truth, may boast her palaces, as any one who has made the "giro" of the Grand Canal will readily affirm. Taking a bark at the great quay, we were conducted through the Giudecca, round the western promontory of the town and thence into the Grand Canal, which traverses the city in a serpentine manner describing the form of a letter S. It were deviating too widely from truth to say that the edifices on each side of this canal display an uninterrupted series of architectural beauty; but the spectator's attention will certainly be arrested by the churches St. Simeon and Calzi, the palaces Vendramini, Pesaro, Corneri, Grimani, Foscari, Contarini and others—with much in the intervals that is either interesting or picturesque. The magnitude of the Rialto bridge, together with the solidity of its construction, will be apparent on passing under it; it is indeed a masterpiece.

In the Academy of Painting we pause before the masterpiece of Titian. This we must, of course, admire, according to law. Some pictures by Tintoretto, Pordenone and Padovanino are likewise marked by legitimate claims to our admiration.

A survey of the Arsenal will fatigue your limbs and empty your purse, if it do not answer your curiosity. The ship-model room is extremely interesting, but the rest will hardly gratify a visitor previously acquainted with either of the leading dockyards in England.

The situation of Venice is singular as that of Genoa is grand, and both cities are more fitted for occasional visiting than permanent residence. The insular position of the one, and the Apennine barrier which embraces the other, are rather too arbitrary in their circumscription of our free way and peripatetic liberty. Venice, in particular, will bring a host of vexations to every man of rural, rambling propensities. Putting aside the Piazza of St. Mark and the Quays, no other part of the city is very seductive. On the contrary, the narrowness of the streets and their puzzling intricacies, together with the impertinence of innumerable canals continually stopping your progress (and as often, of course, provoking your patience), are evils which incline you to be o'er hasty in depreciation of the city altogether.

The cushioned comfort of a gondola we can always have, and at a tolerably cheap rate, but a wander "by hedge-row elms and hillocks green" we must not look to have. There is, indeed, a plot of ground called Giardini Publichi, where grass and gravel may be found in humble apology for an Arcadia, though it rather puts us in mind of a ship's deck covered with vistas of flower-pots. It is too cockneyish. A *rus in urbe* is not to be endured; a *rus in mare* is still worse. To the Venetians, however, anything in the shape of vegetation and foliage must be acceptable, and it serves as the object of a walk, at all events.

ART INSTITUTIONS IN DUBLIN.

THE following letter from Sir Thomas Drew has been addressed to an influential Irish member of the Commission appointed to inquire into Art Institutions in Dublin:—

August 2, 1905.

Sir,—It has been observed with satisfaction that your name has been included in a Commission conceded in the House (on a motion of Mr. Mooney, M.P.) on Art Institutions in Dublin on the lines of a like Commission on the Art Institutions of Edinburgh in 1903. Those interested turn to you as bringing local knowledge, sympathy and patience to the inquiry.

No official communication has reached the Royal Hibernian Academy, primarily affected by such an inquiry. From announcements in the Press, and further question and answer in the House, something like dismay is felt by some that the intention of the House has, by grave misapprehension and misunderstanding, resulted in limiting the scope of the Commission and addressing it to an immaterial issue of no public interest or urgency whatever, and needing no debate, viz. the relations of the two art schools.

This entirely trifling by-subject has been more than sufficiently debated as between the art experts of the Department of Agriculture and the artist experts of the Royal Hibernian Academy, who are in perfect agreement on all points and, as experts, can claim to deal satisfactorily with a detail of art teaching to suit circumstances in Ireland, and are sufficiently impressed by Treasury correspondence as to the importance of a suggestion from it, the essence of which would be a possible saving of less than 30*l.* per annum in school life models.

The Royal Hibernian Academy, I need not say to you, is not chartered as a school. The result of the exclusion of the case of its existence as an institution of Ireland and of the case of art in Ireland, would be the extraordinary one of an assembly of various eminent persons in Dublin, before whom there would be no appearance no evidence tendered, and an unprecedented miscarriage of a Commission from which much was expected in Dublin.

I may mention that the exclusion of the National Gallery of Ireland from a general inquiry into the art institutions of Dublin will not be satisfying to some of the public, but with which the Academy is not directly concerned.

May I trust to you, as the friend of Dublin institutions, to impart, at the earliest date of your knowledge, to the members of the Royal Hibernian Academy, to whom no communication has been vouchsafed, what are the terms of the reference to which they are expected to respond, and who should now be engaged in preparing the case of their Academy?

THE LIVERPOOL ACADEMY.

THE following letter from the Liverpool Academy of Arts has been forwarded to the Lord Mayor of that city:—

"We, the Liverpool Academy of Arts, who comprise amongst our members practically all the painters, sculptors, art-workers and some of the leading architects in the city, desire respectfully to place before the City Council our opinion that it would add to the authority and influence of the library and arts committee if arrangements could be made for one of the members of the Academy to join the committee as a coöpted member.

"Whilst gratefully acknowledging that the arts subcommittee have always shown sympathy with the local professional artists, we may point out that the existing system affords no satisfactory means of ascertaining from time to time the opinion of the art community of the city on the various matters connected with art dealt with by the committee.

"With the growth and added dignity of our city life there are constant occasions when an organised body fully representing all the best opinions of the citizens on art would have a real influence in aiding the committee in its task of beautifying our town and enriching the city with a collection of works of art worthy of one of the greatest cities of the world.

"The Liverpool Academy ventures to express the opinion that the arts committee of the Corporation would be strengthened by the collaboration of the section of the community most qualified to express educated opinion on these matters, and that it would be an advantage to the arts committee and to the city generally.

"We should be obliged if your Lordship would bring this communication before the City Council at its next meeting."

The letter has been referred to the library, museums and arts committee for report.

THE EXCAVATIONS AT NEWSTEAD.

AT a meeting of the Hawick Archæological Society, Mr. J. J. Vernon read a letter from Dr. Christison, Edinburgh, secretary of the Society of Antiquaries of Scotland, in which he stated:—"Sir Herbert Maxwell has requested me to send you some account of the progress of the excavations at Newstead. The undertaking is the most serious we have had to do with, as the area is three times larger than that of any Roman station previously excavated by us, and it will take several years to complete the work in the thorough manner it deserves. The mere fact of its great size indicates that this station or town has been a place of unusual importance in the Roman occupation of Scotland. As yet our work has been partly exploratory, by running trenches across to give us a general idea of what is before us, and partly detailed. The general indications are that the whole interior has been occupied by stone buildings, and that, although in many places they have been entirely removed, their position can always be ascertained from the foundations of clay and cobbles on which they are laid, so that we expect to get a complete plan of the place. As to the detailed work we have made one section through the fortifications, which prove to have been of great strength, the earthen ramparts having been of unusual width, with a strong revêtement of stone. The supposed prætorium is now being cleared out, and the bases of a stone colonnade will stand to a height of several feet in the courtyard. A buttressed building and another square structure with an apse projecting into its courtyard was partially cleared. One of the most interesting indications met with both in the fortifications and buildings is that there were two occupations, both Roman. The number of relics found is very considerable, and include a novelty—a Roman stylus. They are to be seen in the museum here. The excavations are under the charge of Mr. James Curle, Priorwood, Melrose. You ask if a grant of some of the articles found at Newstead could be made to your museum at Hawick. I have no doubt that the committee will be well pleased to send you a representative collection from our duplicates." The Hawick Society resolved to give a donation of 10*l.* 10*s.* to the excavation fund.

THE NATIONAL GALLERY.

THE following additions have lately been made to the national collection at the National Gallery, Trafalgar Square:—

"The Virgin and Child," by Lazzaro Sebastiani, placed on a screen in the central octagon, No. 1,953; a "Nocturne in Blue and Silver" of "Old Battersea Bridge," by James M'Neill Whistler, temporarily placed on a screen in Room XXI., No. 1,959. Both these pictures are the gift of the National Art Collections Fund.

At the National Gallery of British Art, "The Last Ray," by Hugh Carter, No. 1,955, presented by Mrs. Carter; "Fantaisie en Folie," by Robert Brough, No. 1,956, bequeathed by the painter; monochrome design for a lunette, No. 1,957, and a chalk drawing of a female figure, No. 1,958, both by Alfred Stevens, bought by the trustees—all these pictures are placed in Room X.

In Room VI. will be hung for a time the four pictures by Turner, illustrating the story of Æneas and Dido, which formed his last exhibit at the Royal Academy in 1850, the year before his death.

THE OLD CROSS OF NEWTON-ON-AYR.

THE ancient cross of the burgh of Newton-on-Ayr, now amalgamated for municipal purposes with the royal burgh of Ayr, has been re-erected on a site not far from that on which it originally stood. The cross was removed about sixty years ago from its then site in Main Street, opposite the Newton Council rooms, as it was considered to be an obstruction to the traffic, and it was set up behind the Council chambers, where it remained till its re-erection. The site where it has now been placed, says the *Scotsman*, is the wide part of River Street, between the new and old bridges, and near the former. The cross, with its original base, has been placed on a single base of grey granite, with a superstructure of fine grey freestone, and on this the cross, with its base, has been raised, and the whole surrounded with a plain iron railing. The cross is seen to be a coarse sandstone monolith shaft, square at the top and bottom, but octagonal for the greater part of its length. It has, however, become so weathered that the sides have all but disappeared, and it has more the appearance of being round. It has a square capital, and the finial is a round stone ball. The four sides of the base of the capital bear the following:—"Neutoun," "1675," "Rebilt," "1775." The figures have been to a slight extent renewed. The base is a cubical structure of the same stone as the shaft, it is also very much worn and weathered. On each of the four vertical faces of the base are cut two perpendicular shallow trenches with holes at right angles into the stone, apparently for fixing with lead. The trenches, which are about a quarter of an inch deep, were evidently intended for iron uprights dovetailing into them, but whether they were used for the supports of beams to hang scales on or whether they were used as clamps to secure the cross in the ground does not appear. The trenches still have a clear-cut appearance, indicating that they were preserved by the iron filling them. The cost of re-erecting the cross was undertaken by one of the Newton freemen, and the work was carried out by Mr. John Young, burgh surveyor, on behalf of the Town Council of Ayr.

Senator Tullo Massarani, painter and writer, has died in Milan at the age of seventy-nine. He was the author of a number of volumes on artistic and political subjects. He spent some years in exile in France and England. He was one of the secretaries of the Republic of Venice. In 1878 he was delegate of the Italian Government to the Paris Exhibition. He was the author of a work on Italian art, published in French.

NOTES AND COMMENTS.

It will be remembered that some weeks back a painting by Franz Hals was stolen from the picture gallery of The Hague. It is characteristic of Dutch philosophy that a reward of only 40*l.* was offered for the discovery of the thief. Apparently there will be several competitors for this prize. According to one account he has been arrested in Middelburg, where he was endeavouring to increase his collection. He is described as a Belgian. According to another account the picture, if not the thief, was discovered in Antwerp, a gentleman having purchased it who professes ignorance of its importance. Up to the present time, however, there seems to be no definite information respecting the capture.

The decision in the case of Dowsett *v.* Ramuz, which was heard by Mr. Justice Phillimore on Tuesday, upholds the principle of the building-line under novel circumstances. When in 1878 part of the Milton Hall estate in Southend-on-Sea was sold, Mr. Hudson, the purchaser, agreed that no building should be erected beyond the building-line, which was 35 feet from the road. Fences alone were allowed. He erected a house which was mainly 35 feet 6 inches back, the bays being 32 feet 5 inches. Mr. Dowsett, the plaintiff, in 1881 erected a house adjoining which corresponded in position with Mr. Hudson's. In 1904 the defendant purchased Mr. Hudson's house, which he proposed to partly convert into shops. He deposited plans showing the frontage as 32 feet 4½ inches from the road. The plaintiff sought an injunction to restrain the defendant from building, on the ground that the disregard of the building-line would be prejudicial to him and the other purchasers. In answer the defendant said the plaintiff had not observed the building-line, as there were projections to his house. His counsel maintained there was no precedent for a plaintiff being entitled to enforce a covenant which he had himself broken. His Lordship agreed that if the defendant's infringements were similar to that of the plaintiff the latter could not recover. He considered, however, there was an excess which ought to be restrained. The infringement by means of bay windows was trivial, and was, moreover, according to the practice of Southend. But the defendant could not be allowed to alter the structure to the extent shown in the plans, and therefore the injunction was granted.

On Tuesday a meeting of the Modern Art Gallery was held in Dublin, the Earl of Drogheda in the chair. A resolution was passed of regret that one of the five pictures generously presented by the Prince and Princess of Wales to the Modern Art Gallery in commemoration of his first visit to Ireland as Prince of Wales should have raised discussion as to its authenticity. While the committee was satisfied by the expert opinion that the picture in question is an original painting of intrinsic merit, they have decided to ask His Royal Highness to transfer his name from the early work by Corot to a landscape by Harpignies, also of the Forbes collection, and to present the former pictures in their own names. The hon. treasurer said that he had the pleasure of stating that a member of their committee had advanced the sum necessary at the Bank rate of interest to complete the purchase of the remainder of the selection from the Forbes and Durand-Ruel collections now at the Museum, Kildare Street. It was resolved to ask Miss Williamson to give the capital sum in lieu of the annual interest, now known as the "Williamson Fund," towards the purchase of individual pictures from the Forbes collection, to be recorded hereafter as the "Williamson Gift." Some further presentation pictures were announced from Mr. Max Beerbohm, Mr. Briton Riviere, R.A., Mr. Spencer Stanhope and Mr. Alexandre Roche, R.S.A.

The American Consul at Malta reports that extensive building and reconstruction work is in progress at the present time, and builders are becoming dissatisfied with the crude and unsatisfactory materials they have been using for years. Each house erected or reconstructed shows an improvement over previous ones. Carpenters' tools and house hardware now in use admit of much improvement. The Consul says there is not an up-to-date door lock or knob to be found in the island, while the most primitive hinges are used. In the island are many little hamlets and villages, in each of which is to be found one or more churches—often more than the size of the place would seem to justify. Owing to the great demand for labour at present nearly everybody is at work earning money, which is freely spent. For this reason much attention is being paid to embellishment of the churches, and there is great rivalry in the matter of stained-glass windows. The Consul recommends American merchants and manufacturers interested in the commodities mentioned to send not one catalogue, but several; also export price-lists. British manufacturers should endeavour to anticipate American competition not only in Malta but in other British possessions.

ILLUSTRATIONS.

25 BERKELEY SQUARE, W.

This building consists of six floors, the complete group of rooms on each floor opening into a corridor round an inner court, the main stairs being carried up as a lantern round a circular well-hole. The architect is Mr. John T. Lee, F.R.I.B.A., 26 Great James Street, Bedford Row.

HOUSE AT BICKLEY, KENT.

HOUSE AT WIMBLEDON.

RADLEY COLLEGE, BERKSHIRE.—ADDITIONS—CRICKET PAVILION.

THE CABIN, BURY ST. EDMUNDS.

This house, which has been erected for Mrs. Sherwood on the outskirts of the town, has fine views of the river and surrounding country, and is constructed in 14-inch brickwork, cement rendered, and finished in white rough-cast plaster, with mullion windows fitted with wrought-iron casements and lead glazing. The roof is covered with dark brown Broseley tiles, and the woodwork painted green. The whole of the work—including the mantels and internal fittings, which are chiefly in oak—has been carried out by Mr. Frederick Tooke, contractor, Bury St. Edmunds, from the designs and under the superintendence of Mr. H. Steward Watling, F.S.A., of Kingsway House, Dovercourt, and Tavern Street, Ipswich.

NEW COTTAGES, HYDE END LODGE, SHENFIELD, READING.

These cottages were erected opposite to the entrance gates for the coachman and gardener, at the same time that the house was much altered and enlarged. The architect was Mr. A. Whitcombe, A.R.I.B.A., 5 Newman Street, W.

IONA CATHEDRAL.

THE following letter from Mr. A. C. Champneys appeared in the *Glasgow Herald*:—

Having studied the cathedral at Iona recently as well as fore its "restoration," I find it difficult to understand how number of educated men, entrusted with the care of a e and interesting building which possesses a unique chitectural character—not to speak of its associations—can responsible for such operations as have been and are ing on there.

The roof of the south transept on the outside is, com ratively speaking, satisfactory, but the rest of the building covered with slates of commercial appearance and un-easant colour. The best hope for this roofing seems to be at the ravages of the winter gales may give an opening r its complete removal. The walls of the church were, e other rough masonry, plastered inside. In the larger rt of the building this has now been removed, according the mistaken—and, one had hoped, now nearly obsolete—ea that the Mediæval architect liked to display the eleton of his building instead of covering it up decently, the inside at all events. If it could be contended that e plaster was here first added after the Reformation the alls of the nave and of the cloisters, which were certainly t then "restored," would be enough to refute this singular tion about a Gothic building.

The choir certainly once had a flat internal roof or ceil-g, as the corbels and the plaster show. There was doubt-ss a room above it. The present timber roof, of an interesting kind, is open to the top, ignoring the old rangement, and new corbels have been inserted to carry leaving the old ones useless, except as witnesses to the lsity of the "restoration." The north transept has been rovided with a similar roof, though here, too, the corbels dicate a flat ceiling, and this point is made certain by the resence of a door, which now overhangs vacancy, but once d into the tower from a room above the transept, which, gain, was obviously connected with the upper floor of the mestic buildings—the sort of arrangement which is some-mes found in Scotland and is common in Ireland. This ansept has been a special sufferer at the hands of the restorer." In the rebuilding of its northern face, which ad been broken away, a commonplace Gothic rose window as been inserted, opening on the inside through an arch pported on Romanesque pillars. Those who completed e cathedral (as it stood until recently) were eclectic, but t quite after this fashion. On the outside the window ould have opened into the upper storey of the domestic ilding—this is absolutely clear and unmistakable.

The treatment of the north transept has been deplorable; at of the north choir aisle or sacristy is not less unfor-nate. Those who saw the building while it was, though ofless, comparatively uninjured, bearing traces of all the ages in its history, will remember that this sacristy had en walled up, and that a beautiful late Mediæval doorway d been inserted in the wall. The upper part of this par-tion has now been removed, and the lower part has above e doorway been cut and adapted into an ugly and nderous new pediment. This is terminated on one side a grotesque animal of considerable size, and on the other a large angel, of very modern and mawkish character—appalling contrast to the interesting and spirited carving the old capitals of the south aisle opposite. A place ands reserved at the top of the pediment, I understand, r an image of St. Columba; but I do not know whether is is to be by the same sculptor as that of the angel.

This certainly does not exhaust all the criticisms that ould be justified. And one cannot help asking whether thing can be done to reverse, or at least to stop, this oiling and falsification of a building over which morally hough, unfortunately, not legally) the Scottish public has me rights. Besides subscriptions for the restoration of e building being invited by a board at the entrance to the closure, attention is called in a notice on the steamer "to e urgent need of funds to complete the roofing of the ins and to meet the cost of upkeep in the future"—not r experiments in twentieth-century architecture. This tice, at least, should in fairness be altered. Any one ould, of course, wish such a building to be preserved. ut it would be a less ignoble fate for it to perish than be spoilt by such a travesty of restoration. As regards use for Divine service, the feelings which it is now lculated to inspire are most undevotional and un-Christian.

Dr. Honeyman, in reply, wrote:—Under the above ading a letter appeared in the *Herald* of to-day which, with your permission, I desire briefly to notice. It is one of those productions which, written by one only partially informed in matters of detail, cannot serve any good purpose. It can only serve to mislead people still more ignorant than its author, and to provide some colourable excuse for refusing to contribute to the funds of the trustees to people naturally indisposed to do so. This is the second occasion on which Mr. A. C. Champneys has publicly advocated this obstructive policy; I do not charge him with the intention of misleading, but assume that his motive is only to hinder.

Now, although his letter extends to a considerable length, Mr. Champneys mentions only one instance in which old work has been interfered with, and it so happens that he could not have suggested a better illustration of the folly of the course he recommends. I refer to the destruction of fragmentary remains of plaster. Only a very small portion of this possessed any value, but that would have been saved if there had been a resident clerk of works at the church. But there was not. And why? Simply because the trustees were only in a position to spend three or four hundred pounds in the course of the season instead of as many thousands. The risk of a workman making a mistake is almost as great in the one case as in the other, but no one would advise that when the few hundred pounds available are being spent, chiefly in repairs to secure the safety of the building, an additional expense of three or four guineas per week should be incurred to keep a clerk of works there practically idle. The whole work is being carried on at great disadvantage owing to the inadequate support the trustees have hitherto received, and the obvious intention of your correspondent is to perpetuate this state of things.

His remarks regarding the slating are hardly intelligible. He thinks the slating of the south transept tolerably satisfactory, but the slating of the choir as bad as can be, while both of these roofs are covered with slates of exactly the same description and quality as those which he so unreservedly condemns. The roofs, I may say (with the exception of that of the north transept), were constructed and slated before I was asked to advise the trustees. The kind of slate selected was those which I have no doubt were on the building, but when roofing the north transept I took care to get the heaviest slates of the kind which the quarries could supply.

Now, as to the deplorable restoration of this transept. If Mr. Champneys had been better informed, he would have recognised that there is no restoration at all, nor any attempt at restoration. Part of the east wall was in imminent danger of falling, and that was most skilfully repaired by a contractor of immense experience in work of the kind. But the gable is in no sense a restoration; it is a new design, adapted to altered conditions, yet harmonising generally with its surroundings; and, so far as the effect of the wheel window is concerned, while Mr. Champneys is quite entitled to hold his opinion, I am—still more, I think—entitled to hold mine. He is also quite welcome to exhibit his ignorance by suggesting an alternative treatment which is impracticable, and which would leave the north gable without any window, where light is now so much needed.

Regarding the restoration of the arcade on the north side of the choir, Mr. Champneys says not a word to justify his supercilious remarks. The restoration of the lower order of these arches was absolutely necessary to admit of the removal of the rubble beneath them; but the original design was preserved with the greatest care, and the effect of the opening up of these arches is most satisfactory in every respect. The only thing here which the critic condescends to specify is a comparatively insignificant piece of work which makes no pretence of being a restoration, but is merely designed to meet new conditions.

The beautiful old door is left untouched, but if its masonry had been examined more carefully by Mr. Champneys he would have seen that unless a piece of vertical wall-face had been left above it this would not have been the case; and also that there were other reasons for leaving some wall there. Perhaps he can devise some other treatment which would better fulfil these conditions, and at the same time relieve the central column down to the plinth of its base. He might also be good enough to state how it would be possible to minimise this pediment—which he styles "ponderous"—consistently with ordinary Gothic precedents.

As to the treatment of the carving there is perhaps some room for difference of opinion. For my part I have no sympathy with those who advocate the introduction of sham antiques. In this matter I am guided by the principle which invariably guided Mediæval architects. Unless this principle had been respected during the Middle Ages we could have had no such thing as comparative architecture now. Had the architect of this old door not adhered to this principle when he inserted it in a wall some centuries older, we would have lost much insight into the history of the building. In the same way new work, introduced into the building for the first time now, may, if done after the manner of the time, carry some truthful message down to future ages. The sham archaic can only mislead.

I cannot ask you to allow me space to deal more in detail with your correspondent's absurd statements and unwarrantable assumptions. I will only add that for much of the work commented on I am not responsible, but I am not disposed to admit that Mr. Champneys has any right to speak of it as he does, and still less to pose as an expert in connection with work which he evidently does not understand. With the exception of the few patches of rotten plaster still adhering to the walls after several centuries of exposure to the stormy climate of Iona, which have been already referred to, Mr. Champneys cannot point to a single instance where old work has been destroyed. The trustees are strictly conservative in their ideas. Their object is much more to preserve than to restore, and to restore not for its own sake, but as a means to that end, and that they may be in a position to protect not merely the precious buildings themselves, but many of the beautiful and priceless crosses and sculptured slabs entrusted to their care. There is not the slightest excuse for the insinuation that they or their advisers mean to do otherwise. I trust that the result of Mr. Champneys's premature and unjustifiable interference will be different from what he expected, and that it will create a reaction in favour of the vigorous prosecution of the undertaking.

RECENT DISCOVERIES IN SINAI.

DURING the past winter, says a correspondent of the *Scotsman*, Dr. Flinders Petre carried on the work of the Egyptian Exploration Fund in the Peninsula of Sinai, the sites chosen being Wady Maghara and Sarabit el Khadem. Sarabit is on the direct route from Suez to the well-known monastery of St. Katharine, being five days' journey by camel from the former and three days from the latter. Wady Maghara is a little to the south-west of Sarabit. Few places are fraught with such archæological interest, and the results, when fully published in all their bearings, are far from likely to be devoid of interest. With his usual indefatigable energy and unparalleled archæological instinct, Professor Petrie has not only unearthed some most interesting antiquities (which are now on exhibition at University College), but he has added also some valuable pages to the history of Egypt, and what may yet prove to throw light on the sojourn of the Israelites there. It has long been known that an Egyptian temple existed here, and it has now been established that a colony of Egyptian miners inhabited the peninsula from a very early date. That the numbers were considerable is conclusively shown by the continued references in inscriptions on steles in the temple to the number of men and officials sent, and that they stayed there only during the winter is proved by another inscription on a votive tablet, which tells how the body of men had come late in the season, not expecting therefore to do much, yet by the favour of Hathor they had had great success. The miners' quest was turquoise. High up on the face of the rock overhanging some mines the image of Semerkhet (c. 4700 B.C.) in the act of smiting a chief is carved, and right down to c. 2500 B.C. such inscriptions were added from time to time, thus showing that the mining work was prosecuted there with vigour for at least two thousand years. But the most interesting feature to many will be the copious supply of tools and utensils used by the miners which were found on the sites. Evidently before they left for their own country in early summer the miners buried the heaviest of their tools and most bulky of their furniture in the floors of their huts, and to this habit we owe the recovery of so many stone implements. There are heavy stone mauls, stone hammers, lighter and more definitely shaped, stone chisels with a grooved neck round them for fitting into a handle, and heavier elongated stone picks—all used for crushing the sandstone and extracting the turquoise, and all made of the basalt which caps the sandstone bed. With these implements were found also large, rudely-made earthen jars, f water and corn probably, and many clay-baked vessels th are half-bowl, half-plate in shape. They were most like table utensils and very closely resemble the old-fashione wooden bowls used in farm kitchens in our own country generation back. So far as discovery has gone, thes miners would seem to have occupied themselves chief with work and religion; and even their votive offerings we all dedicated with the avowed commercial motive of i ducing the goddess to increase their harvest. Matters wou seem to indicate that they were not unacquainted with th mining fever. Not a trace of any games or amusemen has been left. The temple, however, is of peculiar interes It is dedicated to Hathor, the Great Mother, who occupie very much the same place in their religion as the Virgi Mary in Roman Catholic countries. The innermost sanctu is a cavern shrine in the solid rock. Votive offerings prov conclusively it has all along been a shrine and never a tom as was hitherto believed.

The abnormal feature in this temple is the presence two "Courts of Ablution." In one court there is a larg circular font of limestone, and in the other an oblon trough, both surrounded with pillars, exactly as we find i a Mohammedan mosque. In fact, Professor Petrie regar this temple as the prototype of the Semitic mosque, datin from before 2,500 B.C. Naturally we would fain trace resemblance in its arrangement to the Tabernacle, and the later Temple of the Jews, but it undoubtedly come nearer to the mosque in its design—the shrine repr senting the "Kiblah," and these courts the "Hanafiyeh."

There must have been a considerable pilgrimage to th place, for down to 1500 B.C. we find kings erecting sma shelter-houses for pilgrims close to the temple. In fac these shelters are quite a feature of the landscape, and the usually contain a "Bethel-stone," or "dreaming-stone especially those adjacent to the temple.

The prevalence of these dreaming-stones in hundre on the crests of the hills points to a curious custom coming to this region for the enjoyment of "oracular dreams; and after such experience the pilgrim would s up a stone, as Jacob did. This, of course, is not originall a feature of the Egyptian, but of the Semitic religions, s that we feel ourselves here at the meeting-place of tw races and two civilisations, the Semitic and the Egyptian.

This is further borne in upon us by the work of M Currelly, under Professor Petrie's supervision, near Moun Serbal, which some believe, and which the Arabs say, is th real Mount of the Law. There he found a peculiar specie of stone-built tomb, which the Arabs call Nawamis, hither unknown to the excavator. In shape they resemble be hives, and are built with such care and precision that the scarcely differ an inch in their measurements.

The tombs are themselves unique, and inside of the were discovered also unique specimens of shell jewellery rude shell bracelets and beads. Each bracelet is ma from a single large shell, the conical point of it being c out, leaving thus a hole large enough for the hand to pa through. Rings made in the same way from smaller shell and bronze stilettos, miniature flint axes of beautif shape, and a few bones, complete the contents of th tombs. Only one Egyptian bead was found, and had been an indisputable specimen of the eighteenth dynasty must have led us once more to the Exodus. As it stand the evidence is scarcely sufficient to warrant our connecti the Hebrews with those tombs. Mr. Currelly also examine the ruins at Pithom, the "treasure city" built for Rames by the Hebrews. He explored the store-chambers, th description of which awakened such interest a few yea ago, when it was found that the lower rows of bricks we made with straw, the rows further up the walls with ree (stubble), while those at the top showed no trace of eithe It is all correct; only the damp has rotted away the stra in the uppermost bricks, and when he broke some fifty them Mr. Currelly found traces of straw in every one.

Pithom was not primarily a "treasure city," but built a fort perhaps to protect the south road to Syria. The store chambers were really the ground floor, the arch underground cellars of a huge platform such as is found Daphnæ (the Tah-pan-hes of Jeremiah) and at Naukrat What more natural than that openings should be left in th platform, the floor of the fort, and that these undergrou rooms should be employed as storehouses for the garriso food and the Government's taxation grain. Indeed, it more than likely that these forts were built more for th collection of the Government's taxes in kind than for pu poses of defence.

Simultaneously with the work going on at these places, s. Flinders Petrie and a band of ladies were copying the ıbs at Sakhara, while Dr. Grenfell and Dr. Hunt con- ued their search for papyri in the ruins of Oxyrhynkhos h great success. Besides many papyri, which are yet to worked up, they found hundreds of ostraka, or pot- rds, with inscriptions in Greek, consisting mainly of eipts, tickets and inscriptions on wine jars.

They picked up also many interesting antiquities of the eco-Roman period, and these by-products of their work of great value in themselves. Most striking among m are the coin moulds of Gal. Val. Maximianus and of nstantius, the many specimens of "bone" dice, woven ks, sandals, knives, scissors, keys, flesh-hooks, dolls de some of reeds, others of cloth sewed and stuffed, ts, lamps, clay masks, hairpins, combs, spoons, and even, is supposed, egg whisks made of wood.

All these are in a state of excellent preservation, though y must have lain buried for over 1,500 years. Particu- ly striking is a coloured drawing of a hare, well executed a piece of bone about 1 inch square.

NATIONAL GALLERIES OF SCOTLAND.

BILL has been introduced by the Lord Advocate to establish a Board of Trustees to manage the National lleries of Scotland, and for other purposes connected th the promotion of the fine arts in Scotland. The lowing is the text:—

1. This Act may be cited as the National Galleries of otland Act, 1905, and shall apply to Scotland only.

2. In this Act (unless the context otherwise requires)— "The Board" shall mean the Board of Trustees tablished by this Act:

"Prescribed" shall mean prescribed by order under the nd of the Secretary for Scotland: provided that every ch order shall be laid as soon as may be upon the table both Houses of Parliament:

"The National Galleries of Scotland" shall, until other- se prescribed, mean the several buildings situated in linburgh, and known as the Royal Institution, the tional Gallery and the National Portrait Gallery, and all include any other buildings which may be prescribed:

"Buildings" shall include any land held with or for e purposes of a building.

3. A Board shall be established for the purpose of anaging the National Galleries of Scotland and for such her purposes connected with the promotion of the fine arts Scotland as may be prescribed. The Board shall be lled the Board of Trustees for the National Galleries of otland, and from and after the establishment of such ard, the Board of Trustees for Manufactures in Scotland this Act referred to as the Board of Manufactures) tablished by the Linen and Hempen Manufactures cotland) Act, 1726, the Fisheries (Scotland) Act, 1726, and ters patent issued in pursuance of the last-mentioned ct and by any amending Acts shall cease to exist, and a ference to the Board of Manufactures in any Act shall be nstrued as a reference to the Board, and subject to the ovisions of this Act, all the powers, duties and liabilities sted in or imposed on the Board of Manufactures by any ters patent, Treasury minute, deed or other instrument all, until otherwise prescribed, be vested in, transferred to d imposed on the Board, and, subject as aforesaid, the wers and duties of the Board shall be such, and shall be ercised and discharged by the Board in such manner as ay be prescribed.

4. (1) The Board shall be appointed by the Secretary for otland, and shall consist of seven members, who shall ld office for five years from the establishment of the ard, and who may be reappointed. At the expiration of ery period of five years the Board shall be reconstituted aforesaid. Four members shall be a quorum. (2) The ard shall be established from and after the prescribed date, t being a later date than April 1, 1906. (3) Any vacancy used by the death or resignation of any member shall, as on as practicable, be filled by the Secretary for Scotland, t the person appointed to fill any such vacancy shall hold fice so long only as the vacating member would have tained the same if such vacancy had not occurred. (4) The cretary for Scotland shall appoint one of the members of e Board chairman for such period, not being less than a ar, as he may think fit, and the chairman shall have a sting as well as a deliberative vote. (5) Subject as herein- ter provided, the officers of the Board shall be appointed by the Secretary for Scotland or otherwise, as may be prescribed. (6) The Board shall comply with any instructions which may be issued by the Secretary for Scotland, and shall make an annual report to him, which report shall be presented to Parliament.

5. The secretary and all clerks and other persons in the employment of the Board of Manufactures in any capacity immediately before the establishment of the Board shall from and after such establishment be transferred and attached to, and be under the control of, the Board, and shall hold their offices by the same tenure and upon the same terms and conditions as if this Act had not passed, and while performing the same duties shall receive not less salaries or remuneration and be entitled to not less pensions (if any) than they would have received or been entitled to if this Act had not passed: provided that it shall be lawful for the Treasury to grant a superannuation or other allowance under the Superannuation Acts, 1834 to 1887, to any person so transferred, as if he had been admitted to his office under the Board of Manufactures with a certificate from the Civil Service Commissioners or were otherwise qualified under the said Acts.

6. Subject as hereinafter provided all property belonging to or vested in or held in trust for or by the Board of Manufactures immediately before the establishment of the Board shall from and after such establishment pass to and vest in and be held in trust for or by the Board, subject to all debts and liabilities affecting the same, and shall be held by the Board and applied by them for such purposes connected with the promotion of the fine arts in Scotland as may be prescribed.

7. From and after the establishment of the Board the buildings presently vested in the Board of Manufactures, known as the Royal Institution, the National Gallery, the National Portrait Gallery, the Dunblane Cathedral, shall pass to and be vested in the Commissioners of Works for such purposes as may with the consent of the Treasury be prescribed, and shall be maintained and kept in repair by the said Commissioners, and the expense of such maintenance and repair, together with the expenditure incurred by the Board in the payment of officers and otherwise in connection with the management of the National Gallery and National Portrait Gallery, shall be paid out of moneys provided by Parliament, subject to such conditions in regard to the application of the capital moneys at the passing of this Act held by the Board of Manufactures for the maintenance and endowment of any building specified in this section as may, with the consent of the Treasury, be prescribed.

8. From and after April 1, 1906, the annuity of 2,000*l*., payable in terms of the fifteenth Article of the Treaty of Union and of the Revenue of Scotland Act, 1718, which is presently payable out of moneys provided by Parliament in terms of the Public Revenue and Consolidated Fund Charges Act, 1854, shall, so long as it remains payable, be charged on, and payable to the Board out of, the Consolidated Fund or the growing produce thereof, and shall be applied by them as may be prescribed.

9. From and after the establishment of the Board, the enactments specified in the schedule to this Act shall be repealed to the extent mentioned in the third column thereof.

LANDSCAPE-PAINTING.

AN address was delivered at the opening of the exhibition of the Sheffield Society of Artists by Sir W. B. Richmond, R.A. He observed that it might seem a paradox to talk of the charms of scenery in a great manufacturing town, within the multitudinous sound of revolving machinery, and in the gloom of a smoke-laden atmosphere through which the white and health-giving rays of the sun passed rarely, if ever. Of the disadvantages and discomforts of town life many had spoken, from Ruskin to political economists and notable physicians. There they were, and there they would remain till a simple life took the place of a complicated system which was the reverse of simple, and the enemy of all substantial or permanent progress. Changes for the better did not come automatically; they only came when a whole people was awake to a great necessity, a necessity which had first, perhaps, been prophesied by single voices, and the people had come to see that it was a true voice. "We will project ourselves into other environments," suggested Sir William, "into the sober, peaceful life of the country either in this grey and green island of ours, or among the mountains of Greece, the illuminated deserts of Africa, the pastoral plains of the

Roman Campagna, or the islands of the blue inland sea—the homes of romance, the nurseries and cradles of classic beauty, of beaming sunlight and joyous lives." Word-painting, he claimed, was legitimate upon an occasion of that kind, when brother artists were face to face with one another; when amateurs were likely to listen, and some might leave stimulated and desirous to aid the restoration of the calm and beauty of a country life, even at the expense of a modicum of material wealth. A happy people bred a fine race, a simple people initiated simple wants; a greedy people became satiated with false prosperity, inoculated with a false fibre, and in the moment of a call for unanimity found itself split into sections of various items of selfishness and self-seeking, wholly apart from the great heart of a nation as a whole. The Japanese had taught us a lesson of unanimity.

While he admitted that the people of England had allowed her to suffer her most sacred groves of beauty to be invaded by manufacturers and all the train of evils, ugliness and destruction, which were apparently inevitable, Sir William said that England still retained many spots of unviolated beauty, and some such were not far from Sheffield. Perhaps the landscape art of England represented the most spontaneous generation of the artists and people of our country. Probably its range was as wide as in France, possibly wider. Who was the equal of our great Turner? Turner was the Shelley of painting, the king of landscape-painters of the whole world. His life was devoted from sunrise to sunset to his art; he was ever accumulating facts and impressions which his poetical mind wove into fantasies which became creations. He verified his emotions with scientific fidelity unknown to any of his predecessors. He was not satisfied with a sketch from nature. He had to know as well as to feel. His canvases in the National Gallery were the results of thousands and thousands of studies, of an intimacy with all nature's moods and all her constructions, more entirely developed in him than in any other painter either before or since. All that the Impressionists did he did better, and however noble and simple might be the first impression of his great schemes of light, within that mighty breadth there lay, in their proper places, the violet on the mossy bank, the flitting butterfly; and, radiant in the distances, hill after hill was clearly defined with their townships on the summits, just as nature gave them to all there, bathed in light, visible, if searched for. It was the "multum in parvo" of which Turner was such a master—the great and the small—relative, never bald and superficial, cold or unloving.

Sir William confessed to wondering sometimes, when visiting a modern exhibition, where landscape was chiefly represented, recently or in the last decade, how it was that the subjects chosen were often uninteresting, sometimes puerile; and he continued to wonder why it was so when he had the opportunity of visiting various parts of England, and recognised the quantity of sometimes almost epic beauty there, which had been passed over and was unrecorded. He feared the truth was that it had become a habit to make sketches and to call them pictures. Surely this ought not to be so. Sketches were studies made direct from nature, in order to leave some lesson, master some device of nature's; in themselves they were delightful impromptus—the picture was the experience of something thought, conceived, designed. The picture was as the finished poem, the sketches were as the notes for it. Turning to consider the varieties of landscape, the speaker said that English landscape had a kind of melancholy. It was grey, green; it was homely, peaceful, or grim. It was pretty more than grand, sombre for the most part. In their way the moors in the North, including those not far from Sheffield, were superb, big in their desolation, immense as gatherers of cloud, shadow and gleaming light. At Buxton last year he wondered why all that he saw around had never been painted. Except in the Roman Campagna he had never seen such noble skies as there—skies which a Dutchman would have delighted to record. It was the capriciousness of change, the waywardness of the climate, which rendered our island a place of enchantment. The aristocrats were rightly too proud of their inheritance to reduce them to the nature of tea gardens. He had lately been in Monmouthshire. He knew of no village churches either in France, Germany, or Italy so delightful as ours were, and he noticed, too, how the castles in Monmouthshire retained much of the stately beauty of the severe English type. To those who had travelled much in Southern lands England looked terribly prosperous, not terribly grey, and he had heard French as well as Italian painters express the enjoyment they from our fogs. "The English thrive in gloom," said Italian to him. Finally, the lecturer entered into technicalities of landscape-painting, speaking more par cularly to members of the craft, and showing how anoth "palette," or selection of pigments, was necessary for t equipment of the painter in the south than that availab for the north. England can be painted in a few tint not so the south. Even the climate of the north France, though clearer and lighter in atmosphere than o island is, demands a far less gorgeous series of pigmen than Southern Europe needs to express the manifo reflected lights, infinite distances, the brighter foliage, t clearer seas, sunlit rocks and dark caverns, which a r of reflected light will render as if they were countle jewels. Discussing "distance," he said the painter wh was to realise the essentials which made the character of southern distance must be a good, secure and refin draughtsman. He feared that the modern technique whi had been imported from France, employed by "Impre sionists," was by no manner of means one which includ either refined or subtle drawing. It was no use to rush a southern distance and daub away till something wa found; it must be as beautifully drawn as a woman's ey or mouth if its beauties of colour as well as form wer adequately to be recorded.

Mr. Willoughby Firth moved, and Mr. A. J. Hobso seconded, a vote of thanks to the President for his address

BRITISH EXCAVATIONS IN GREECE.

A REPORT has been presented by Mr. R. C. Bosanqu on the work during April, May and June of th British School at Athens :—

The centre of this year's work was the temple area Palaikastro, which in 1904 yielded the Hymn to the infan Zeus and other remains of a Hellenic sanctuary, on th eastern margin of the prehistoric town. In this regio there proved to be unexpected depth of soil and very complete stratification, all periods from the Classical Gree back to the "Early Minoan" being represented. Of th temple itself, which was of wood, little remains, but i terra-cotta decoration has been recovered, including a friez of chariots and metopes adorned with the head of Medusa The enclosing wall of the *temenos* has been traced, and nea it have been found quantities of offerings, vases and lamps bronze shields and a bronze lion, which, like the terra-cott lions of the Altar Hill at Praisos, may point to the surviva of the old cult of Rhea besides that of her son, Zeus. Th Bronze Age buildings underlying the temple proved to b especially rich in objects of the fine "Palace style" which i known to have flourished in Crete during the Egyptia eighteenth dynasty—painted jars with marine and flora designs, a hoard of thirty-six elaborately carved ston vases, and four ivory plaques engraved with lilies and othe figures. Neither here nor in the poorer strata intervenin between this and the Hellenic level was there any definit evidence of religious use. But in a slightly older stratum Mr. Dawkins came upon a quantity of bones of oxen which seemed to mark the position of an early place of sacrifice Thus the lonely Hellenic temple, which stood a thousand years later on the ruins of the prehistoric town, occupied whether by chance or by some direct religious survival, a site of immemorial sanctity. There were terra-cotta models of bulls' heads and a great mass of painted pottery of the beautiful Transitional style which Mr. Evans calls "Late Minoan I."—a most valuable find, for hitherto this period was not well represented at Palaikastro. So, too, with the lower strata. Until this year we had plenty of "Middle Minoan" forms and designs and very little "Early Minoan," but this want too has now been supplied. Deep deposits under the temple area have furnished a quantity both of an older plain ware with dappled black and red surface and of the black ware with geometrical patterns in white, which during the third millennium B.C. gradually developed into the polychrome Kamares style.

With these "Early Minoan" remains the stratification ends; no regular Neolithic deposit has been found at Palaikastro, though stone axes are not uncommon in the district. But Mr. Dawkins has made a brilliant little discovery which goes far to fill this gap. He traced some of these axes, brought to him by a peasant, back to their finding-place, a cornfield in a depression of the high bare limestone plateau which rises behind the plain of Palaikastro. Excavation disclosed not only primitive pottery, bone edles, broken celts and chips of obsidian lying thickest der a rock-shelter at one end of the plot, but the walls of L-shaped two-roomed house, unmistakably of the same e, since within it were found twenty stone axes, more an half of them in brand-new condition. This discovery ves us, for the first time in the Aegean, a definite idea of Neolithic homestead.

In other directions Mr. Dawkins and his helpers, Messrs. arles Hawes, Kirkwood and Dickins, have made important ogress. The main street of the prehistoric town has now en cleared for a total distance of more than 350 yards, d some of the side streets were further explored. Out- le the town several small cemeteries were discovered, and r. Hawes, the anthropologist of the expedition, measured number of skulls from "Late Minoan" earthenware ffins, obtaining data for comparison with the "Middle inoan" skulls measured here in 1903 by Mr. Duckworth.

The results of this season supplement and complete ose of previous years in a most satisfactory way. For e present further digging would add little to our know- dge, and it is better that here, as at Troy and Phylakopi, rt of the ground should be spared until researches else- here increase our comprehension of the evidence. Per- ps nowhere in the Greek world have more or more autiful objects been recovered from the earth at so trifling cost—a result due in part to the self-denial of the students lping in the work, who during the four campaigns have ven their services and paid their own expenses, in part to vourable local conditions, low wages and shallow soil. ne cost of the season's work has been only 360*l*., of which e Cretan Exploration Fund has contributed 200*l*., the school o*l*. and Emmanuel 60*l*.

The director in his report on Laconia says that the first te examined was that of Thalamai on the west coast, mous in antiquity for its oracular shrine of the goddess o. The sacred spring mentioned by Pausanias is almost rtainly identical with one outside the village of Khouti- ari, the water of which wells up within a vaulted chamber recent date and then flows out across a sunken court hich is still in part enclosed by a wall of fine Hellenic asonry. The trial trenches showed many traces of ancient cupation round the spring, which is still reckoned the best all the narrow strip of Northern Maina which extends etween the Taygetus range and the sea up to Kalamata. ut the whole neighbourhood must have been ransacked r stone again and again in the Middle Ages, when there as a considerable population here. The countryside is udded with little Byzantine churches, often built of ancient ocks. Mr. Dickins discovered and photographed some ery interesting sculptured marble capitals and screens, me of them exhibiting Western characteristics, due per- ps to Frankish occupation. We gleaned a few inscriptions one, an archaic dedication to Asclepius, gives a new form his name—but got no new light on the cult of the local ddess.

SANATORIA FOR CONSUMPTION.[*]

THE best position for a sanatorium is the southern slope of a gentle hill, near its summit, with tree shelter on e north, east and west. For subsoil, sand or gravel is the st if attainable, because it is dry and warm, but a turally well-drained site must in any case be obtained so at the land may not get saturated with water, otherwise it ill be cold and unsuitable. A pure water supply must be ailable, and before any site is adopted full inquiries on is head should be made. In many hard sand or rocky ils it may be impracticable to sink wells at all.

Sewage disposal is of great importance. If a public wer is at hand it would naturally be used, but if this is n-existent then other systems must be considered. Where ere is a large area of meadow land available a simple stem of filtration and precipitation, aided by chemical fusion, with ultimate disposal on the land, is sufficient. several large German sanatoria (among them that at lkenstein) this is satisfactorily adopted. At Nordrach thing but the common cesspool is used, emptied by a cuum pump into closed carts, which distribute the un- eated liquid on to the land. At the Nuremberg general spital, a very large institution, the sewage is collected, emically treated and then turned into open settling tanks; e precipitated sewage is then drawn up and hydraulically pressed into cake for manure, the liquid running away. The septic-tank system is used in England, but there is no doubt that in many cases the smell from these tanks is considerable until they mature, but eventually they give a safe effluent in which fish can live.

A screen of trees for the shelter of the sanatorium is the best and most pleasant—better than a bare hillside, because it breaks wind currents without arresting them or causing eddies. Prospect is of great curative value. It should be as wide, extensive and pleasant as possible; something to engage the patient's attention, to broaden and extend his mental vision, to teach him to study nature in her varied moods.

In aspect, south is best of all, where the sun's direct rays may permeate every room, cheering, cleaning and germ-destroying. The ideal situation is a hillside covered with pine trees, ever green and exuding invigorating fragrance, open gardens on the south and sides, a common or moor beyond rich with gorse and heather, undulating country wood-clad, and a rapid river or sea in the distance. All these can rarely be obtained with any one site.

We now come to design, and this is a subject in which are involved many considerations. Firstly in importance is the welfare of the patient, and, secondly, the convenience of the administration. It is to be noted that architects and medical men of different countries frequently approach the subject from the point of view of buildings and social institutions with which they are most familiar. The one-unit building (based on the hotel or barrack) appears to have been, and still largely is, the type in Germany, France and Switzerland, and the sanatoria are three, four and five storeys high.

I may cite from Germany the Falkenstein Sanatorium. It is in effect a large hotel, which began from a small private mansion, but has been added to at different times. The kitchens, larders and offices are on the basement of the central building, U-shaped on plan, the arms being nearly at right angles to the centre. This block faces east-south-east. It is four storeys in height including the basement, and there are three main staircases. To the north-east is a very large dining-hall opening on the south-south-east to a wide verandah, which is extended to form a covered promenade 200 feet long. The other corresponding wing has an enclosed gallery facing west. The medical staff houses and consulting-rooms are at the extreme ends. There are no regular nurses, but the whole plan is under medical direction, and accommodation is provided for 120 patients of either sex, in seventy single and twenty-five double-bedded rooms. Most of them have south aspects, but many have not. There are only two slipper-baths for patients and a douche-room. The Liegehallen are attached, forming wide verandahs on the three sides of the terrace at the basement-floor level, and in the grounds there are several open pavilions and summer-houses.

Ruppertshain is a compact building, crescent in form, consisting of a basement with four storeys above in which the administrative departments and patients' room are all contained. It accommodates 112 patients in wards containing one, four and six beds each. These rooms are in single file and face south, with a corridor on the northern side. There are two main staircases. There are nine slipper-baths and one douche-room for men, another for women. There are a matron and five nurses. The Liegehallen are two-storeyed, one on each side, attached as wings.

At Engelthal the Nürnbery Heilstätte is one building with basement and four other floors. Here again the administrative departments are in the same block as the patients. Fifty patients are accommodated in seventeen bedrooms; two only have one bed, others three and five beds each. All face south. There are three nurses. There is but one staircase in the building, which would hardly pass our fire-escape authorities. There are four slipper-baths and three douches, all in the main building, as are also the six water-closets. The Liegehallen are detached. The last two institutions described are, it will be seen, of the one-block type, but the next is quite different.

The Städtisches Sanatorium at Harlaching, near Munich, , to be accurate, a hospital where the large majority of atients are consumptive. The main block is E shaped, hree storeys in height, with no basements. It receives 212 patients, 106 of each sex in twenty-eight wards, twelve with single beds, six with twelve beds and six with twenty beds. There are besides a few isolation wards. There are four staircases and one passenger lift. There are twelve slipper-baths and three douches, divided into six groups each having two slipper and one douche-bath in a single room divided by partitions. There are eighteen water-closets, each group of three with a slop sink being in one room with one window, and all in the body of the building. The twenty-bed wards are axially east and west, the twelve-bed wards north and south, all with windows on both sides. The single rooms face east or west and the isolation rooms north. The Liegehallen are three storeys high, forming 12-feet wide verandahs of solid masonry on the southern side of the twenty-bed wards, which are thus practically cut off from all sun. There are other Liegehallen in the grounds. There are two very handsome chapels in this hospital. The nursing staff consists of twenty-three and a matron. The administration block is separate and is a hollow square on plan, with the engine and boiler-houses in the centre of the quadrangle. It contains the staff residences, the kitchens, staff dining-rooms, laundry, cow-stables, &c. The disinfector is strangely placed in the basement of the staff block. It will be seen that this very modern and complete hospital disregards what we regard as of great importance, namely, aspect, abundant sunlight in all rooms, and detachment of sanitary apparatus.

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[*] A paper by Mr. Edwin T. Hall, vice-president R.I.B.A., d at a sessional meeting of the Sanitary Institute and published the *Journal*.

The last illustration of these buildings which I am able to show is that of the Volksheilstätte at Krailing, in Bavaria, and it is more like our accepted type than any other, but it has a basement and three storeys. Its plan consists of a centre with two wings at very flat angles. It takes 120 patients. There are thirteen single-bed wards, the others containing two, three, four, five and six beds, all facing south-south-east or south-south-west. There are two staircases. Four slipper-baths are provided in one room, and there is one douche-room. Here again the eighteen water-closets are in groups of three in one room with one window, and all are in the heart of the building. There are also in the body of the building rooms fitted with thirty lavatory basins. The Liegehallen are recessed verandahs under the patients' bedrooms of the side wings. The nursing staff consists of fifteen. The staff all live in this same building. I have had an object in mentioning the nursing staff at the various places referred to. Firstly, because it affects the accommodation to be provided, and, secondly, because a member of the recent deputation to the Metropolitan Asylums Board made the suggestion that the staff of nurses need not be large in our sanatoria. The keynote of all these German institutions is concentration with centralisation. Administratively this is possibly economical, but economy may be attained at the sacrifice of things more important. We in England aim at greater segregation of patients; at the removal of the staff when off duty from the locality of their work to pleasant surroundings; at the isolation of all sanitary conveniences, so as to keep the air of patients' buildings free from contamination. Now there are varying methods of attaining the objects aimed at. Some advocate the separate hut, some cottages for a few, others building-units for twelve to twenty-four, and again others one block to hold a large number. At Pinewood, the King's Sanatorium, and Frimley, the rooms have generally single beds; at Northwood they have generally eight beds in a ward, but this last is a country branch hospital rather than a sanatorium.

The one-bed ward is, I believe, most recommended because one patient is not disturbed by another coughing. There are, however, advantages in having a few two and three-bedded wards, as in cases liable to sudden hemorrhage the presence of another person to summon assistance may be of great importance, and in specially nervous cases companionship may be desirable.

We are enabled, through the courtesy of the architects, to see illustrations of two of the most modern English sanatoria. That at Pinewood, in Surrey, designed by Mr. F. Jones, was erected some four or five years ago for sixty-four paying patients, and has a central three-storeyed administrative block containing the medical staff residences, offices, consulting-rooms and dispensary. Two detached two-storeyed wings at obtuse angles contain in each thirty-two single bedrooms in single file facing S.S.E. and S.S.W. Behind the centre, to the north, is another building, containing dining-rooms, kitchen and offices, and, on the upper floor, the bedrooms for nurses and servants. The laundry block and boiler and engine-houses are again to the north.

The King's Sanatorium, designed by Mr. Percy Adams, also for paying patients, accommodates 100, and is somewhat on the same general plan, but all the buildings are attached. The patients are in single-bed wards, facing S., S.S.E., or S.S.W. The dining-hall is in the centre to the north, and the administration is in another range further to the north, with staff residences at the ends. The whole is stately, as becomes a king's house. I have not at hand details of the accommodation and staff, but as the architect is present he will give them better than I can.

The Heatherside Sanatorium at Frimley, in Surrey, designed by myself, belongs to the Hospital for Consumption at Brompton, is for poor patients and free. It consists of detached blocks, and provides accommodation for 100 patients. The main building has a central block and four radial pavilions. In the centre are the day-rooms, facing south, the consulting-room, dispensary, matron's rooms, board-room, &c., and here there are four three-bedded wards for patients requiring special observation. Each of the radial pavilions is two-storeyed and contains accommodation for twenty-two patients in twelve single-bed wards, two of two beds and two of three beds. Each floor is entirely disconnected from the other. Every patient's room in all parts faces S., S.S.E., or S.S.W., and behind are corridors, the windows of which are arranged opposite the ward doors, so as to get a through current of air to each room. The object of the radial treatment was to get the minimum distance between the centre and the extreme wards, and also to provide for greater classification of patients, both male and female. Between each pair of pavilions is a detached sanitary tower containing the baths, lavatories, closets, sink-room, &c., and to each pair is a duty-room with separate lavatories, &c., for nurses. To the north, and quite detached from the main building, is in the centre the assembly hall, with a dining-hall on each side. Behind, again, are the main kitchen and stores, with servants' dining-rooms. At the eastern and western extremities of this range are respectively the residences for medical officers and nurses, of whom there are six. The laundry, engine and boiler-houses, laboratories, mortuary, ambulance station, &c., are near the main road. The rest-shelter for men is to the west of the doctor's residence, backed by the pine-woods and facing a staff tennis-lawn. That for women will be at the east of the main building. An endeavour has been made in the external design to get away from the character usually associated with a hospital, and rather to attain the appearance of a large comfortable country home or seaside pavilion. The mental effect of brightness and homeliness, it is hoped, will materially assist the medical treatment of the patients. On the ground-floor the wards have rolling sun-blinds instead of verandahs, except at the extremities. The French casements open on to terraces with gardens beneath.

A few words must be said of the cottage type of sanatorium. This usually consists of one or more central administrative buildings, and many detached cottages for patients. A well-known example of such a colony is the Adirondack Sanatorium at Saranac Lake in New York State. The type of cottage is one with a common sitting-room of octagon form, with two or four bedrooms opening off the room, and separated from it by 7 feet high partitions. These cottages have been increased year by year to meet demands. The Loomis Sanatorium at Liberty in the same State is another similar institution. These places are for paying patients. It may, however, be affirmed that such villages, for any considerable number of patients, if built of permanent materials, could not in England compete as to original cost with the more compact sanatoria. Cottages are, so to speak, the simplest kind of shelters, with no housekeeping worries, and, given reading and other rooms, to delicate people anxious and willing to submit to medical discipline they are attractive as residences if the surroundings are pleasant. That is the secret of Dr. Walther's Sanatorium at Nordrach in the Black Forest. Here, in a charming locality with a mountain stream running through the village, the doctor began in a small way. He gradually took other existing houses for the patients that came, and then built a house larger than any others, but still the whole is a little colony of many houses.

The question now in the air is how to erect cheap sanatoria for the million; the answer has yet to be found. You cannot get buildings of a permanent character, with all the modern minutiæ of sanitary detail insisted on by experts, without paying the price. Can we, however, be content with less? Can we get buildings of a primitive type to serve the purpose? If we are content to put up internally with less perfect arrangements and sanitary finishings, then much money will be saved. But we must not ignore the fact that in permanent general and special hospitals the curative results under the old internal con-tions were not to be compared with those under the most odern conditions. Efficiency with economy is a sound y, but real economy has generally been found in the erfect sanitary efficiency of a building.

No doubt wood and iron buildings may be erected at a latively cheap price, and it will be remembered that when ver hospitals were first started they were built of those aterials and cost little. One of the advantages claimed r them was the sanitary one, that after ten or fifteen ears, when they were supposed to become infected, they uld be burnt down, but experience led the authorities to eplace many with permanent buildings costing twice as uch, and others, recognised as unfit, were left up because e owners could not face the loss by burning. Now, no fectious hospital, unless for a strictly temporary or emergency purpose, is erected except of permanent material. Vill not this experience apply here? It is said that in a ecade or two pulmonary phthisis will be wiped out. We ll hope it may, but it is a short time in which to eradicate o widely spread a disease, and it may take much longer. emember a wooden building has to be painted all over very three years. Its normal life and the life of a alvanised iron building is one-third or one-fourth of that f a brick or stone building covered with slate or tiles, and et its sanitary appliances and drains must be as expensive s for the permanent building, and their life ends with the hort-lived wooden or iron receptacle. I doubt if the cost f such temporary buildings, allowing for maintenance, inking fund, &c., does not, in the end, exceed that of permanent buildings. Again, if the disease be destroyed, permanent germ-resisting buildings will be available for other urposes, while the more porous wooden ones, worn by the ction of wind and sun, will be infected and not available or anything else.

In conclusion, if anything I have said induces an exaustive discussion of the problems which surround our ubject, I feel sure you will excuse me for my long trespass n your time.

TESSERÆ.

Detail in Art.

BEAUTY of detail is to architecture what finish is to painting, what the elegancies of style are to literary composition, what the graces of expression are to poetry. Mere beauty of language and imagery, however exquisite in tself, will not indeed, atone for the absence of higher qualities, yet it will serve to render them still more attractive and impressive. So likewise in architecture beauty of detail s indispensable to general beauty of composition. That here may here and there be exceptions to this rule we do not ake upon ourselves positively to deny; but it will almost nvariably be found that the most intellectual productions of art, be the particular art what it may, recommend themselves by superior felicity and carefulness of execution, and by those minor touches which are overlooked only because they are present, but of whose value we should be rendered very painfully sensible were they expunged. The greatest poets and artists are as eminent for the felicitous expression of their ideas as for the energy displayed in the conception of them. Even if their productions do not exactly "smell of the lamp," or indicate to the superficial observer any of the elaboration of study, they evince that intense affection for their subject which assures us that they neglected no means of maturing it to excellence. It is a fatal mistake in art to suppose that a sedulous attention to minutiæ is incompatible with genius or derogatory to its powers. It is the evasive excuse of indolence—the self-delusion of the inefficient pretender. Such negligence of the means ought, in most cases, rather to be attributed to infirmity of purpose and actual want of power than to energy of imagination, Trifling inaccuracies and blemishes may, indeed, be tolerated in a work where beauties of a higher order preponderate. Still in themselves they are blemishes, although they co-exist with genius.

Mottoes in Heraldry.

It is uncertain as to mottoes whether they arose from the pious expressions placed in ancient times upon tombs, as Drede God, Jesu mercy, Ladye helpe, or from war-cries used for mutual encouragement at the moment of onset, of which the following are specimens:—The king of France, "Montjoye St. Denis!" The king of Scots, "St. Andrew!" The emperor of Germany, "A dextre et a sinistre!" They are classed as enigmatical, sentimental and emblematical. According to Mr. Lower, "The enigmatical are those whose origin is involved in mystery, as that of the Duke of Bedford, 'Che sara sara'—What will be will be; and that of the Duke of Bridgewater, 'Sic donec'—Thus until ——! A barrister once used 'Non bos in lingua'—I have no bull upon my tongue; alluding to the Grecian didrachm, a coin impressed with that animal, and expressive probably of the bearer's determination not to accept a bribe. The motto of the Lords Gray was, 'Anchor, fast anchor,' and that of the Dakynses of Derbyshire, 'Strike Dakyns; the Devil's in the Hempe'—enigmatical enough, certainly. Sentimental mottoes are very numerous. A multitude of them are of a religious character, as 'Spes mea in Deo'—My hope is in God; 'In Deo salutem'—In God I have salvation; 'Sola virtus invicta'—Virtue alone is invincible; 'Non mihi, sed Christo'—Not to myself, but to Christ; 'Sub cruce'—Under the cross. Many are loyal and patriotic, as 'Vincit amor patriæ'—Love of country conquers; 'Non sibi, sed patriæ'—Not for himself, but for his country; 'Patria cara, carior libertas'—My country is dear, but my liberty is dearer. Others are philanthropic, as 'Homo sum'—I am a man; 'Non sibi solum'—Not for himself alone. Treffry of Cornwall used 'Whyle God wylle,' and Cornwall of the same county, 'Whyle lyff lasteth.' But the most curious class of mottoes are the emblematical, some of which allude to the charges in the arms, and others to the surname, involving a pun. Of those allusive to the arms or crest, the following are examples:—That of the Earl of Cholmondeley is 'Cassis tutissima virtus'—Virtue the safest helmet, alluding to the helmets in his arms; and that of the Egertons, 'Leoni, non sagittis fido'—I trust to the lion, not to my arrows; the arms being a lion between three pheons, or arrow-heads. The crest of the Martins of Dorsetshire was an ape, and their motto, He. who. looks. at. Martin's. ape, Martin's. ape. shall. look. at. him."

Education of the Eye.

Accuracy and completeness of perception acquired as a habit are essential to truth of delineation, for this is the education of the eye. To discriminate the resemblances and dissimilarities of the several qualities of various objects, such as their form, substance, colour, consistence, &c., their effects on one another, and their properties in respect to the absorption or reflection of light is necessary, and is of itself a delightful study, without which no artist paints truly, because he sees imperfectly and imitates ignorantly. A healthy vision—a clear perception, as it is one of the first requisites of a painter, so it is one of the most difficult to acquire. The eyes of men do not see the same, either as regards colour or shade; as respects form, the accuracy of their discrimination is proportioned to the degree of intelligence possessed by each in regard to the qualities and properties of the object as well as to the education of the eye. It is surprising how ignorantly and erroneously many artists exercise the sense of vision. They appear to understand objects only in the gross, and by comparison. Thus they see a church steeple is taller than the houses, or that one man is taller and stouter than another, but they do not trouble themselves about the more minute forms and appearances; they give a general similitude of the object, but subject each to the same treatment both as respects style and effect. One artist makes all his men vulgar, another dandies; one artist paints a cathedral in ruin, another the same cathedral fresh from the hand of the architect. Each represents his building in the style he chooses to adopt, and gives an arbitrary effect and tone of colour inconsistent with and at variance from nature. This practice has become so common, and we are so accustomed to it, that we are not greatly shocked with the discrepancy; but because our perceptions have become reconciled to erroneous representations, we are not therefore to permit the truth of nature to be violated in the practice of an imitative art, whose very existence depends on its fidelity, without recording our sense of the impropriety. When artists take leave of propriety altogether they find to their cost that they have committed an error which the enlightened portion of the public will not mistake for genius or praise for originality, and they have to choose between loss of patronage and reputation and a wilful indulgence in their extravagant humours. But it is often only a question of degree, and what is essentially a departure from the truth of nature is only complained of as a fault, when its extreme absurdity renders it a vice. If every artist were to paint nature as he sees her there would be no danger of sameness in pictures, not only on account of her infinite variety, but by reason of the various peculiarities of vision, the different modes of interpreting what is seen, and the several styles of art adopted in representing the scene.

Flashing for Glass Painting.

Besides enamels and stains, artists, whenever the subject will allow of it, make use of panes coloured throughout their substance in the glasshouse melting-pot, because the perfect transparency of such glass gives a brilliancy of effect which enamel colouring, always more or less opaque, cannot equal. It was to a glass of this kind that the old glass-painters owed their splendid red. Instead of blowing plates of solid red the makers used to flash a thin layer of red over a substratum of plain glass. Their process must have been to melt side by side in the glasshouse a pot of plain and a pot of red glass. Then the workman, by dipping his rod first into the plain and then into the red glass pot, obtained a lump of plain glass covered with a coating of red, which, by dexterous management in blowing and whirling, he extended into a plate, exhibiting on its surface a very thin stratum of the desired colour. In this state the glass came into the hands of the glass-painter, and answered most of his purposes, except when the subject required the representation of white or other colours on a red ground. In this case it became necessary to employ a machine like a lapidary's wheel, partially to grind away the coloured surface till the white substratum appeared. The material employed by the old glass-makers to tinge their glass red was the protoxide of copper, but on the discontinuance of the art of glass-painting the dependent manufacture of red glass of course ceased, and all knowledge of the art became so entirely extinct that the notion generally prevailed that the colour in question was derived from gold. In 1793 the French Government actually collected a quantity of old red glass with the view of extracting the gold by which it was supposed to be coloured. Le Vieil was himself a glass-painter employed in the repair of ancient windows, and the descendant of glass-painters, yet so little was he aware of the true nature of the glass that he even fancied he could detect the marks of the brush with which he imagined the red stratum had been laid on.

GENERAL.

Mr. H. Burke-Downing, architect, Merton, has been awarded the first premium of 50*l.* offered in a competition for designs for a public elementary school at Bexhill-on-Sea, Sussex. Mr. A. H. Ryan-Tenison acted as assessor for the 105 sets of designs submitted.

M. Bernier, Architect, has succeeded the late M. Scellier de Girors as chief of the atelier of architecture at the Ecole des Beaux-Arts, Paris.

The Jury of the International Exhibition of Fine Arts at Munich have awarded first-class medals to ten Germans, eight Frenchmen, three Italians, three Hungarians, two Belgians and one English artist.

Shakespeare's "Julius Cæsar" was performed in the ancient Roman theatre at Orange on Monday, by a troupe of the Comédie Française under the direction of M. Raoul Gunsbourg.

"The Gravel Pit," by John Constable, has been acquired for the Munich Gallery. It was also sought for the Berlin National Gallery.

A War Memorial has been erected in St. John's Gardens, Liverpool, at a cost of 3,000*l.* The sculptor is Mr. W. Goscombe John, A.R.A.; the bronze casting has been carried out by Mr. A. B. Barton, and the granite work by Messrs. Kirkpatrick Bros. There are figures of Britannia and of two soldiers of the Liverpool Regiment, one being in the uniform of 1685.

The Kelvingrove Art Gallery, Glasgow, displays during August and September a small loan collection of Dutch pictures belonging to Mr. Arthur Kay. Among the works are fourteen examples by Jan van Goyen, the founder of seventeenth-century Dutch landscape art.

The Sanitary Inspector of the Hollingbourne District in Kent has reported that at Bridhurst in one house of 1,420 cubic feet there were fourteen people, father and mother and twelve children; in one room of 840 cubic feet six persons were living, and another room of 580 cubic feet was occupied by eight persons. In another case, a house of 1,400 cubic feet was inhabited by eleven persons. In one room of 820 cubic feet five persons lived and six persons were crowded into the other room of 580 cubic feet.

An Exhibition of modern furniture is now open in Grand Palais of the Champs-Elysées. It was arranged M. Lafon, architect. There are also examples of anci work.

The Lords of the Treasury have renewed for a furt period of five years the annual grant of 500*l.* to the Bri School at Athens, which was originally made in 1895. promoters of the movement hope that a very influentia signed petition for a similar grant to the British Schoo Rome may be favourably considered.

The West Bromwich Town Council offer premiums the three designs selected in a competition for a Carne library. Architects who compete must practise within miles of the town.

The Glasgow Town Council have accepted the plans the new Mitchell Library buildings in North Street sen by Mr. W. B. Whitie, architect, 219 St. Vincent Street. committee recommend that the premiums of 100*l.*, 75*l.* 50*l.* be paid to the authors of the designs marked Nos. 21 and 55, being the designs respectively placed seco third and fourth by the assessors. The authors of designs Nos. 47, 21 and 55 are respectively Mr. Jo Arthur, 131 West Regent Street, Glasgow; Mr. Sidney Greenslade, 11 Gray's Inn Square, London; and Mr. Jan R. Rhind, 67 Hope Street, Glasgow.

The Berwick Corporation have leased to the Governm the ancient bell tower, from which alarm was given of approach of the Scots, and the Edwardian walls have be saved. The Board of Works take over the ground ninety-nine years, the object being to preserve and sa guard these interesting relics. Over the bell tower m still be traced the three lions rampant of England.

The Parks and Galleries Committee of the Glasg Corporation have resolved to apply to the Board of Edu tion for a grant in aid to the extent of 50 per cent. of purchase of art and science objects for the Glasgow galler and museums to an amount of 800*l.* The committee ha approved of a suggestion by Mr. James Paton, the sup intendent of the art galleries and museums, that an exhi tion of Japanese art should be held in the People's Pala next winter.

The Libraries Committee of the London County Coun have decided that the exhibition of loan pictures should of the Belgian school, *i.e.* the work of painters who w born or who flourished on what we now know as Belg soil.

Bishop Thornton, speaking at Rivington Gramm school, said he felt indignant when he saw the ruin abbeys and monasteries which King Henry VIII. despoil When he passed King Henry's tomb in Windsor he kick it, though it did no harm to what was beneath.

The "Technolexicon," the English, German and Fren technical dictionary which the Society of German Engine is compiling, with the assistance of about 2,000 firms a individual collaborators in many countries, is progressi satisfactorily. Dr. Hubert Jansen, the editor-in-chief, sta that up to the close of June about 2,700,000 word-cards h been collected. To these will be added the hundreds thousands of cards that will result from the working out the original contributions not yet taken in hand. F information concerning this great undertaking can obtained from Dr. Jansen, whose address is Dorothee strasse 49, Berlin.

The Accounts of the Lord Russell of Killowen Memor Fund have now been made up. The total subscribed w 3,287*l.* Of this 1,437*l.* was paid to Mr. Brock, R.A., for t marble statue in the central hall of the Royal Courts Justice. Mr. Sargent's fee for his portrait was 500 guine This is now at Lincoln's Inn, but eventually it will offered to the National Portrait Gallery. A sum of 3 was also paid to Mr. Brock for a marble bust presented the Bar Association of New York.

The Yorkshire County War Memorial, which was veiled at York last week by Lord Roberts, is in the form an Edwardian cross, fashioned after the memorials to Que Eleanor. It is 57 feet 6 inches high, and bears the nam of 1,459 Yorkshire men and women in the panels whi run round the lower portion of the structure. In eight niches above are to be placed figures representing branches of the services. The flying buttresses, pinnacles surrounding the lantern (surmounted by a cro and other parts of the monument contain delicately scu tured tracery. Designed by Mr. G. F. Bodley, R.A., memorial is of Ketton stone, with slabs of Cumberland sl for the steps and the inscription tablet.

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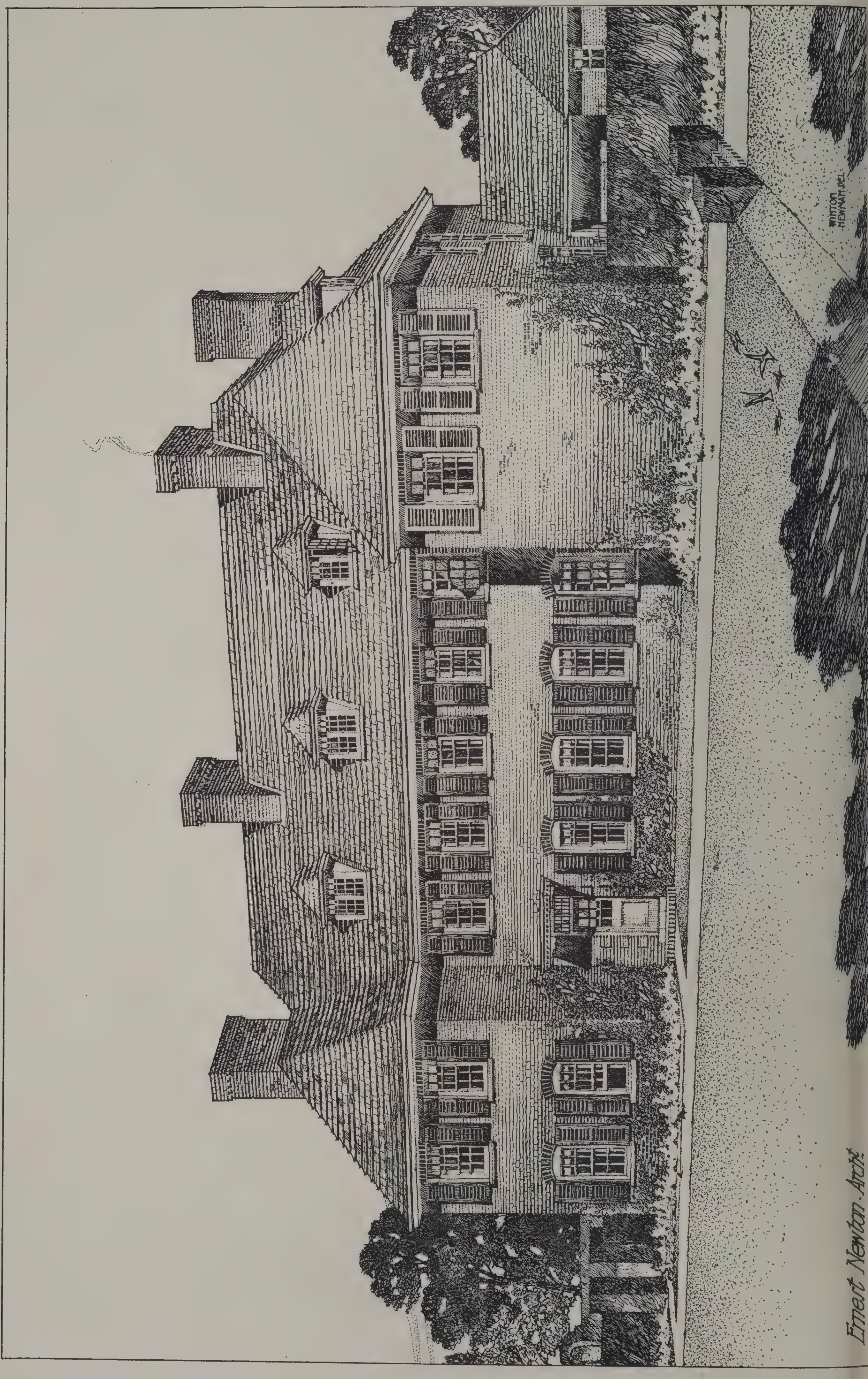
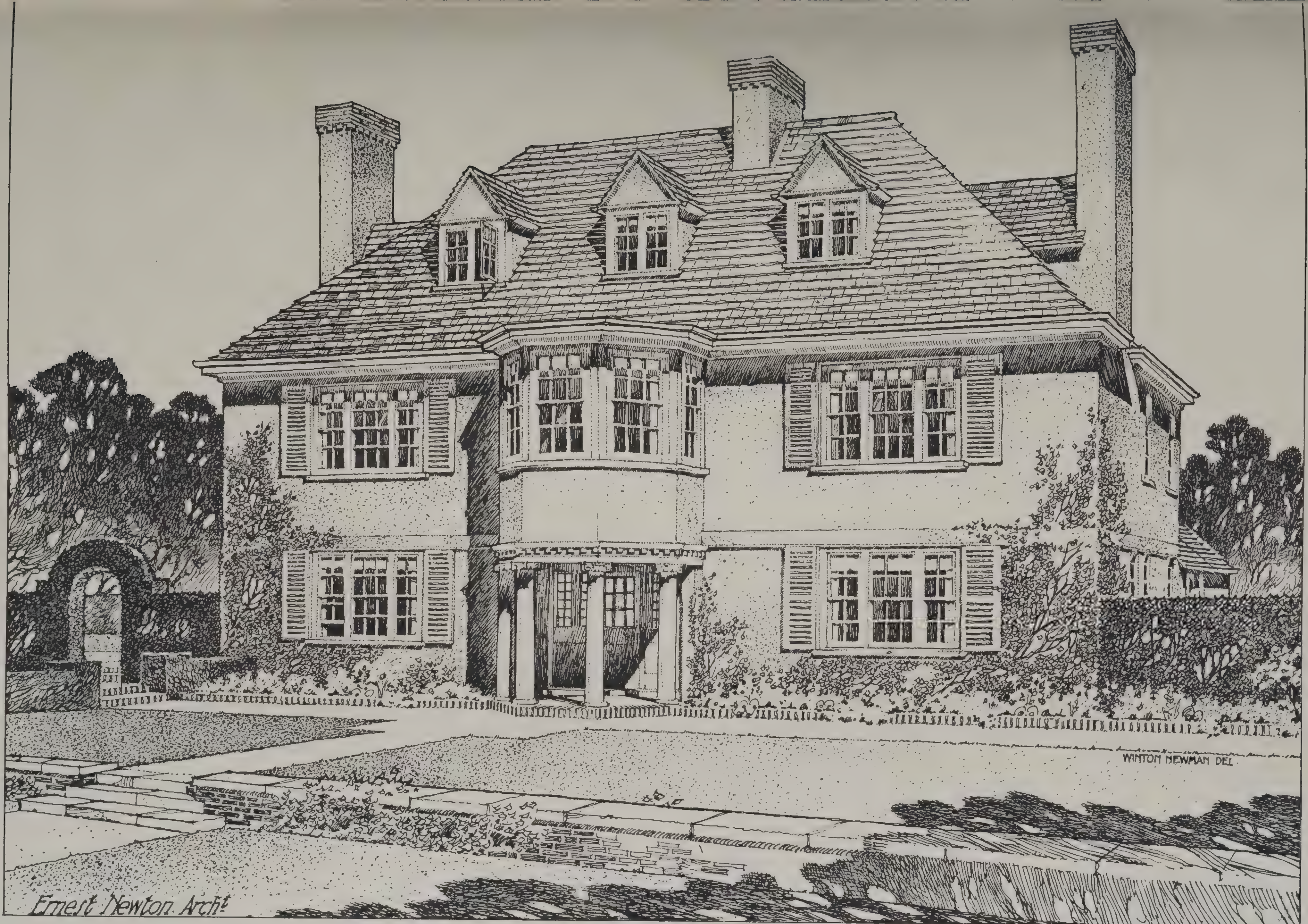


Ernest Newton. Archt.



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HOUSE AT WIMBLEDON.

ERNEST NEWTON, Architect.

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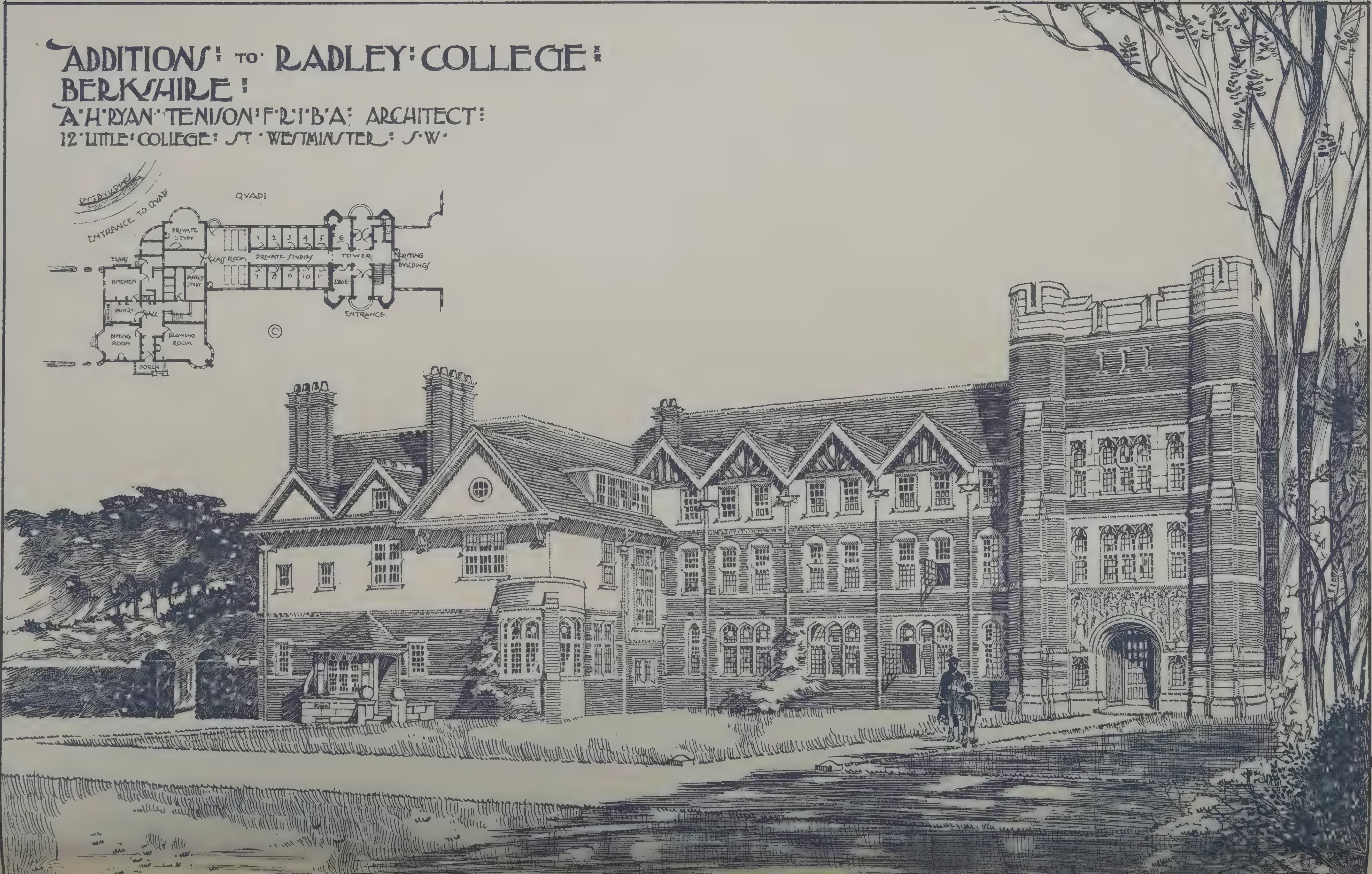

ADDITIONS: TO RADLEY: COLLEGE:
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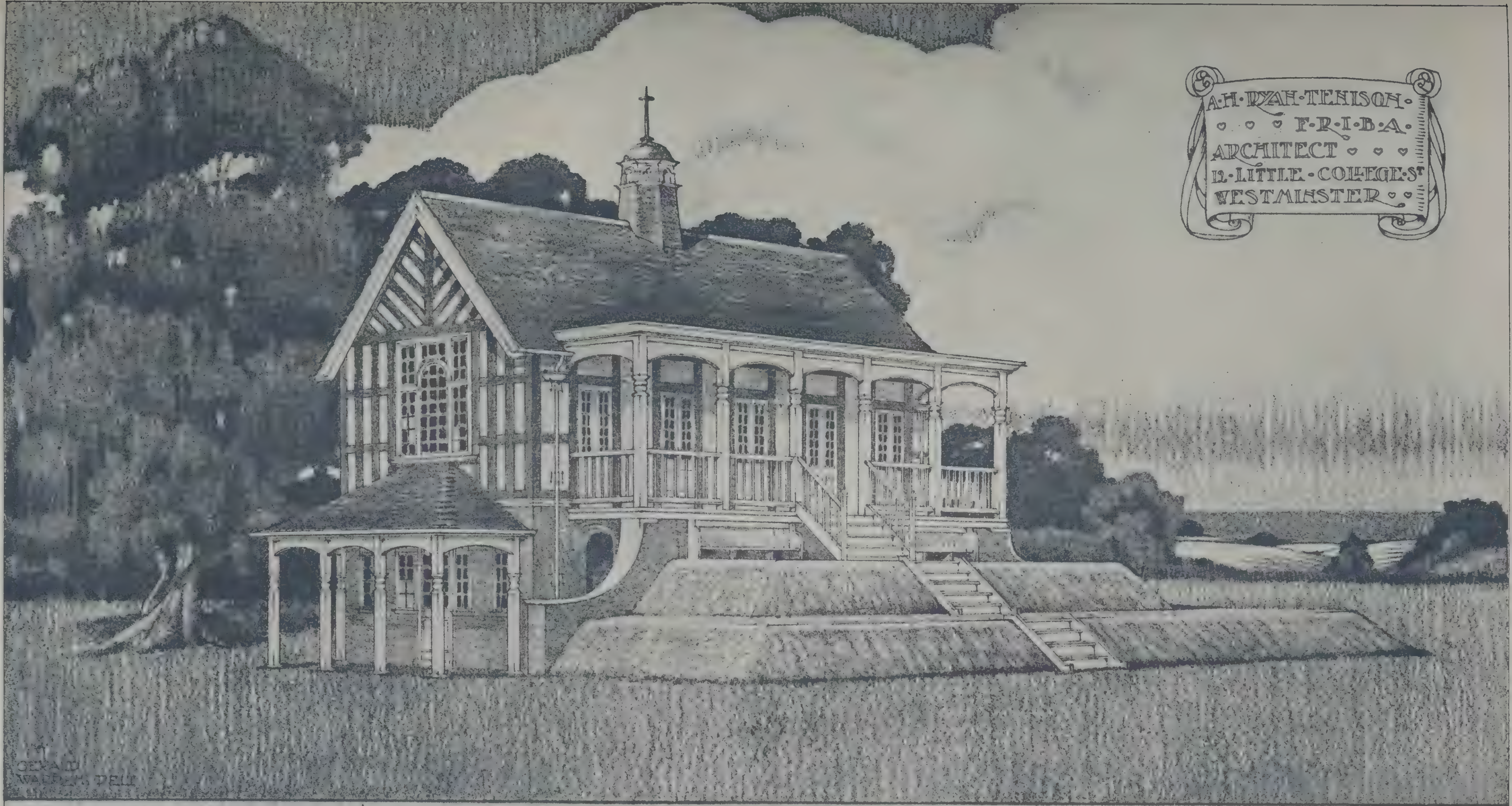

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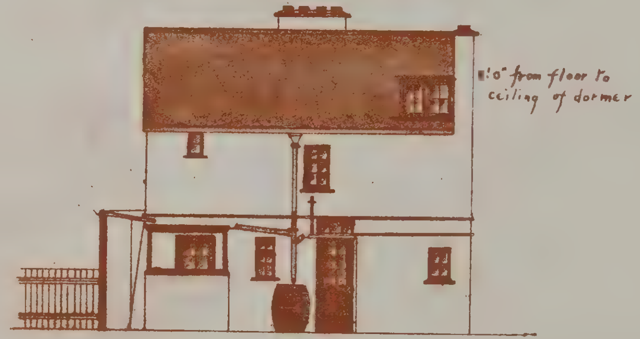
·NEW·COTTAGES·OPPOSITE·

0 10 20 Feet

·Brick·walls·covered·with·rough·cast·roof·&·verandah·covered·with·local·tiles·
·Dormers·necessitated·by·bye-law·as·to·height· ·Cost·£425·the·pair·



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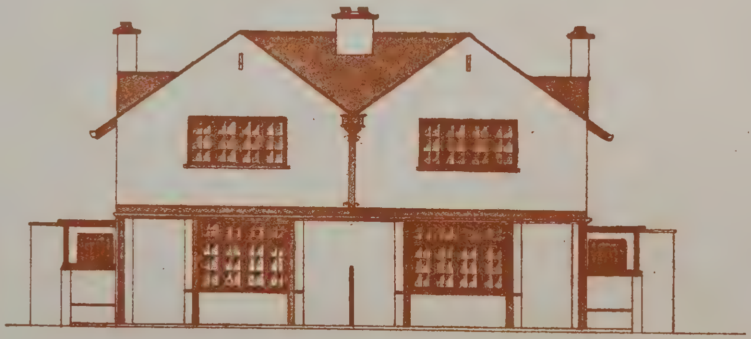

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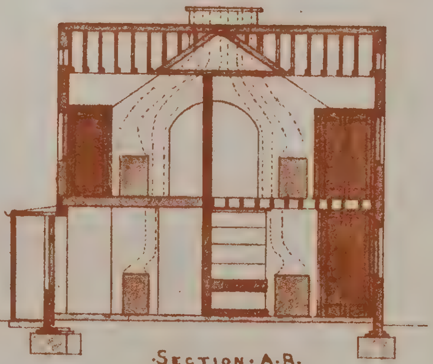

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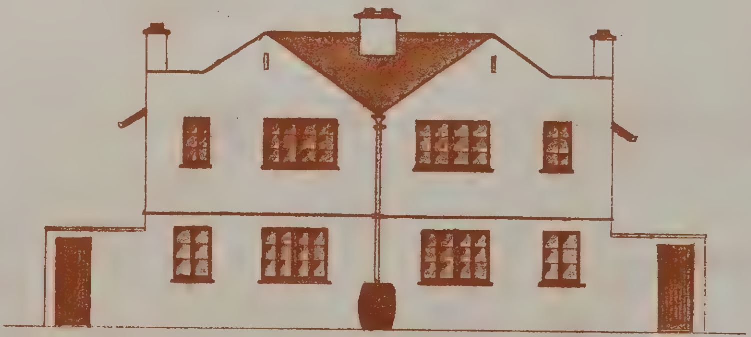

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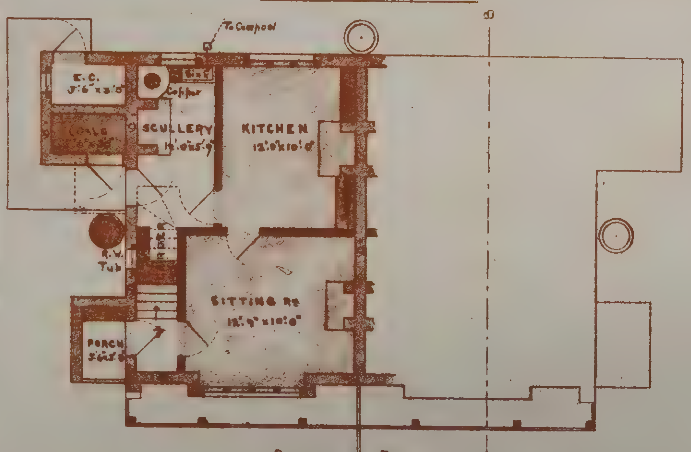
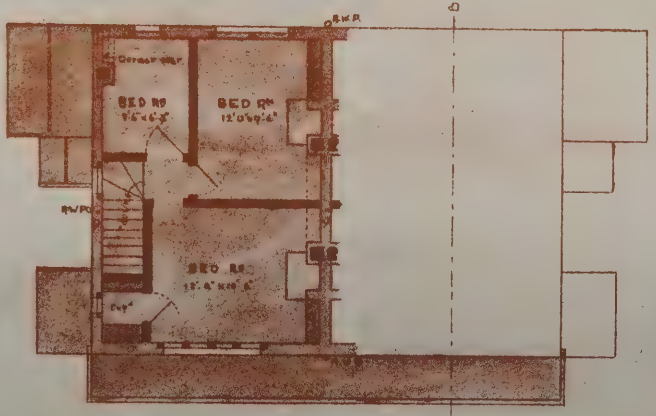


·GROUND·PLAN·



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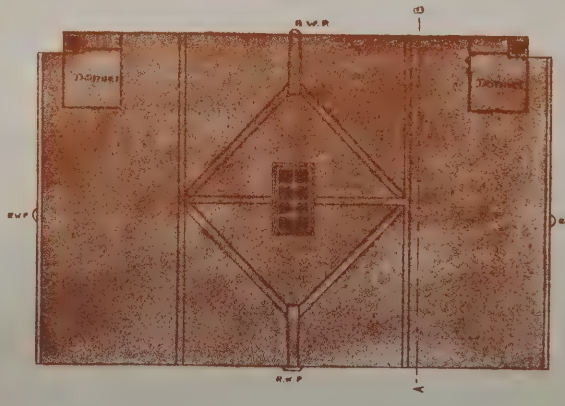

·ROOF·PLAN·

·Arthur·Whitcombe·A·R·I·B·A·
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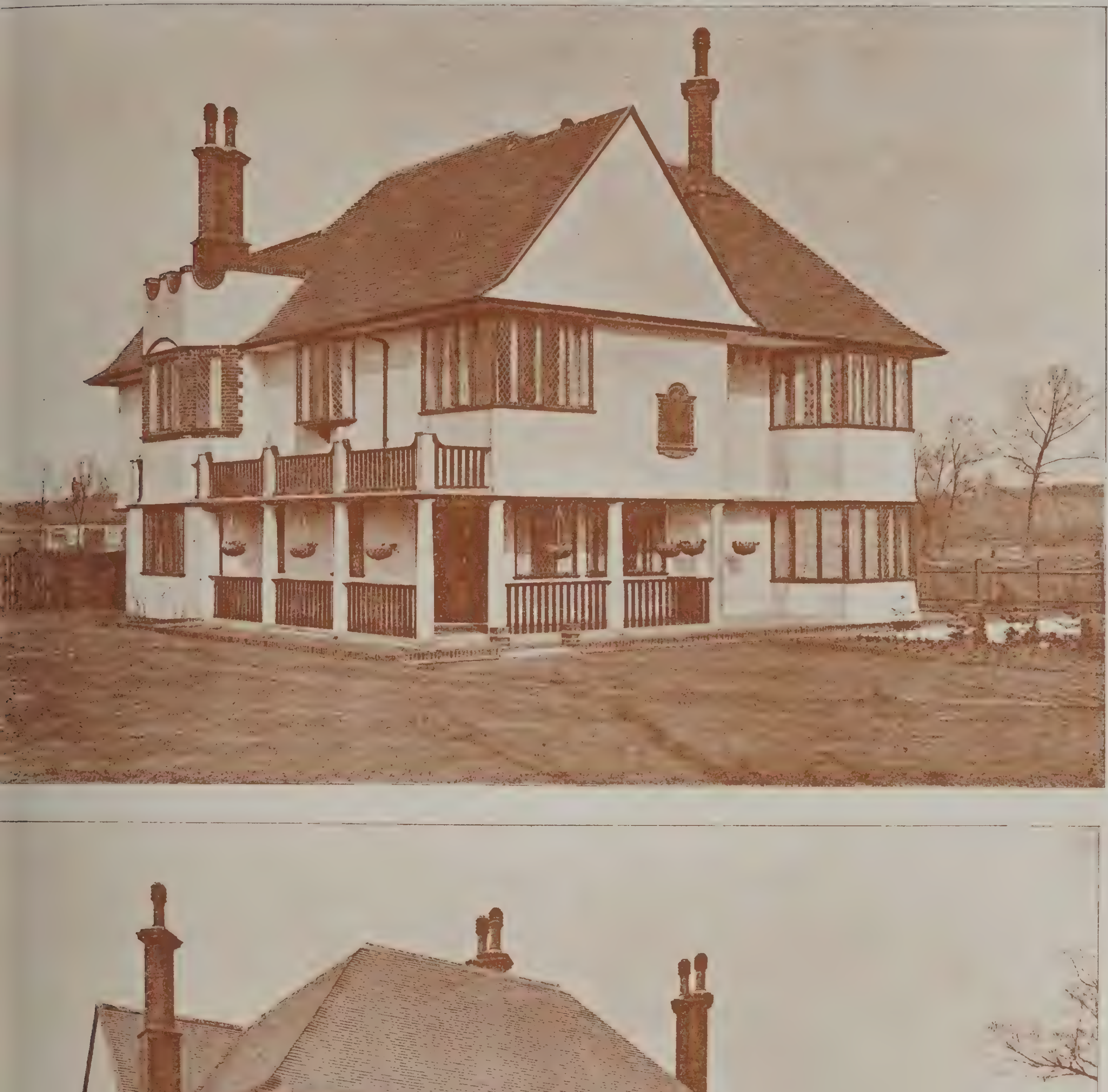
·LONDON·W·



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"THE CABIN," BURY ST. EDMUND'S.

H. STEWARD WATLING, Architect.

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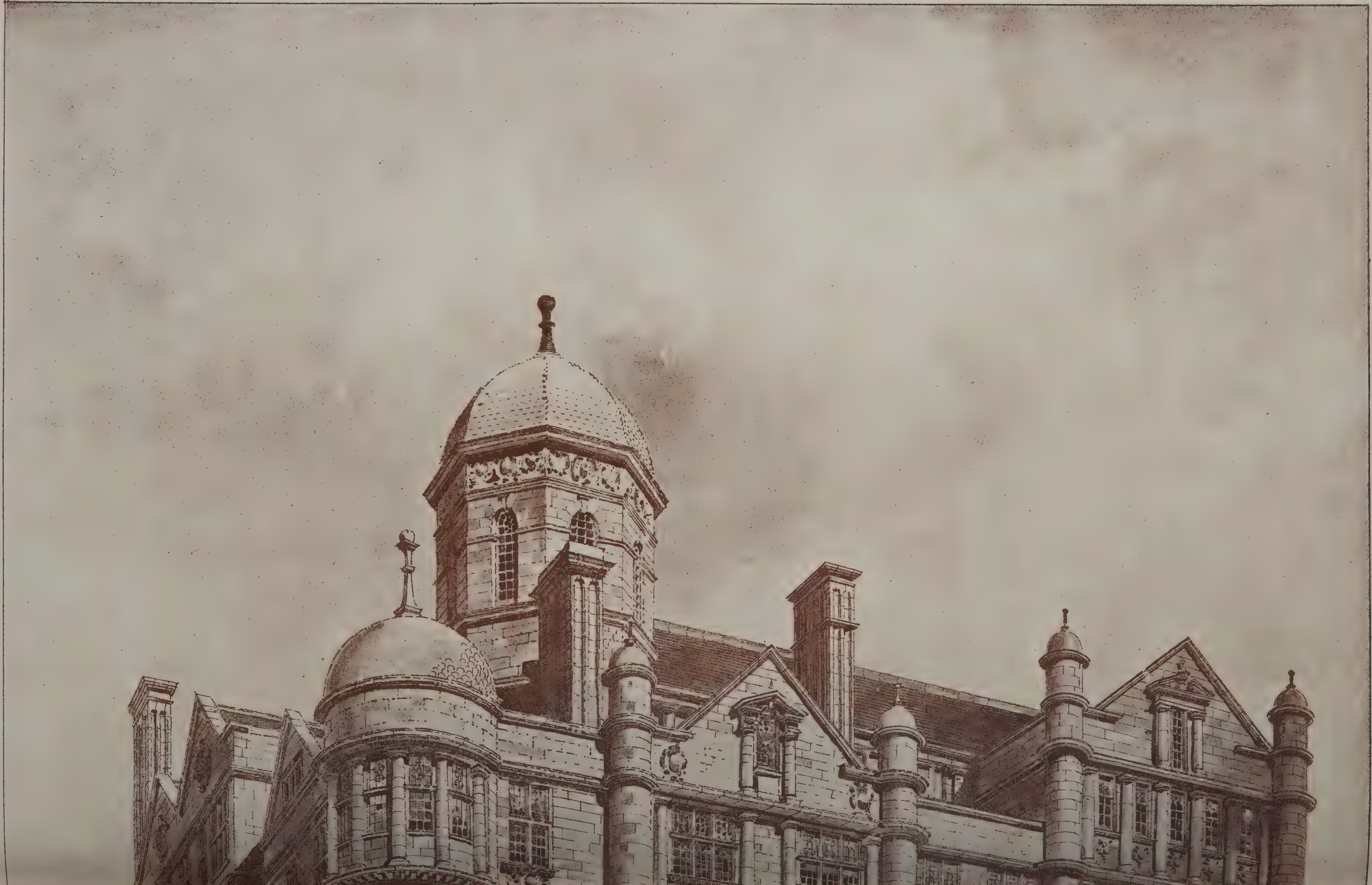

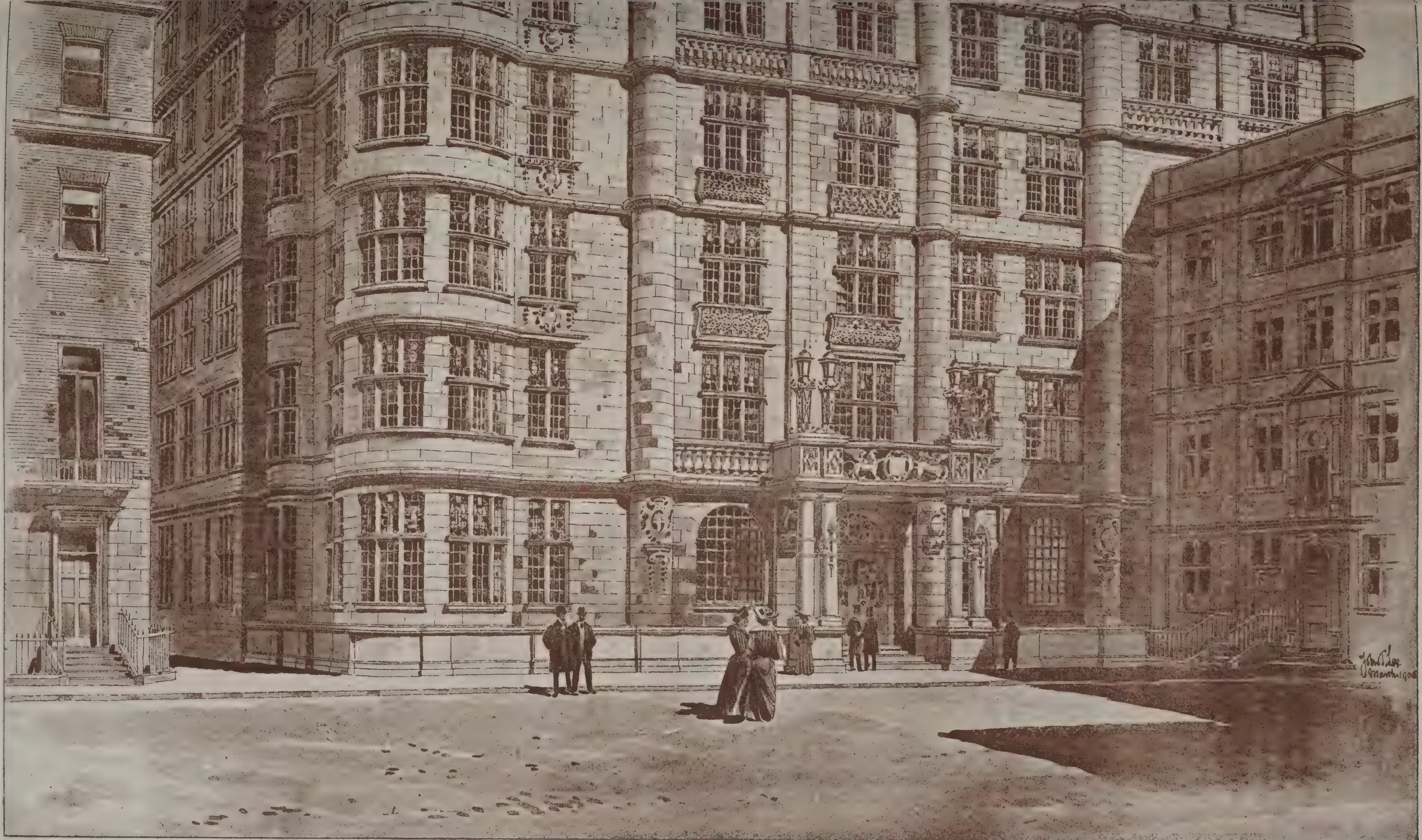

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The Architect.

THE WEEK.

It was lately mentioned in this Journal that three members of the Dublin Corporation visited the main drainage works in company with an official of the improvements committee. By their combined labours they produced one of those rhetorical reports which Irishmen can, by the aid of their imagination, accomplish when they have little knowledge of the subject. It was no doubt intended to excite the alarm of the taxpayers of Dublin, and in that way it was successful. The main culprit was made out to be Mr. Spencer Harty, the engineer to the Corporation, who, it appears, was guilty of the crime of rendering services to the Corporation for nearly half a century, and, what is worse, for having worked his way up the official ladder. He demanded an independent investigation, and, fortunately, Sir Alexander Binnie was selected. In his report, which was read at the meeting on Monday, he congratulates the Corporation on the excellent workmanship displayed in the great concrete tanks, which measure 900 feet by 266 feet. Any adverse opinion to their quality, he says, can only have arisen from an utter ignorance of the nature of the behaviour of monolithic concrete-work. The moisture in the main sewers is, Sir Alex. Binnie says, a circumstance to which all subaqueous work is subject. In another spot there was an infiltration of tar, which arose from the neighbourhood of the gasworks. He says he experienced a similar difficulty, and believes that where the ground is charged with gas-tar refuse it will penetrate not only through the joints, but through the solid bricks. In conclusion, Sir Alex. Binnie says that it is the custom of committees to consult their officers, but in this case they were satisfied to base their opinions on the reports of a man without experience in the construction of similar works.

It is a serious consideration for builders to have the operations in their yard declared to be a nuisance. It is not uncommon in the metropolitan suburbs and provincial towns to find builders' premises amidst a row of excellent residences. But it will generally be found that the builder was a pioneer, or established his business on the spot because at the time there were no residences near. A case relating to a New Brighton builder was decided on Saturday by Mr. Justice Walton, and the view his Lordship adopted must give cause for reflection to many builders. Three or four years ago Mr. T. F. Cooke hired premises which had been used by a builder, and where a circular-saw was at work. The business must have advanced, for the coming and going of carts laden with stone and timber, stone-cutting, the working of a circular-saw, the noise of a gas-engine were all said to cause discomfort to the family of an owner of a neighbouring house. He therefore sought an injunction to abate the nuisance or damages in substitution of relief. Cases of the kind always reveal the marvellous variety of the human senses. Noises can be heard by some people which are inaudible to others. Mr. Thicknesse, who appeared for the defendant, said the circular-saw could only be heard outside the shed when the windows were shut, and the stone-chipping, though uncomfortable, was not unbearable. Mr. Justice Walton said that what was a nuisance in one place might not be one in another; it was a question of degree. In this case he concluded that there was substantial discomfort and inconvenience to the plaintiff and other people living in the neighbourhood. His Lordship considered that if the defendant had approached the plaintiff all the expense of proceedings might have been saved. He granted the injunction restraining defendant from using the premises in such a way as to be a nuisance to the plaintiff in the occupation of his house.

We trust builders are not becoming reckless in bringing charges against architects. But statements are now occasionally made which at an earlier time would not be invented. One of the latest examples arose out of the building of a house at Carnarvon from designs by Mr. R. Lloyd Jones. The builders told the architect that if he would express an opinion about the amount which was due to them their bankers would make advances. The contract was for 1,400*l.*; of this sum 1,120*l.* had been paid, and there were deductions and extras to be taken into account. The architects said the amount due would probably be from 250*l.* to 300*l.* The bankers advanced 250*l.* Afterwards builders claimed 176*l.* as extras, while the owner claimed deductions to the extent of over 300*l.* The architect brought the deductions down to 294*l.*, and gave a final certificate for 36*l.*, which he calculated was all that was due over the contract price. The builders' claim being 416*l.*, Mr. Justice Bucknill made an order staying the action and referring the dispute to the architect. The builders endeavoured to set aside the order on the ground that the architect was not a free agent, inasmuch as he was threatened with an action for negligence by the building-owner, and that he yielded to the threat and adopted deductions which were unfair. Lord Justice Mathew said that he did not think it was possible for a building-owner to coerce an architect in that way, for the threat was more likely to set up the architect's back. The Court of Appeal said that under the circumstances the architect should be allowed an opportunity of making an affidavit in respect of the charge made against him. Mr. Lloyd Jones accordingly denied that he had ever been threatened by the defendant, and stated that the deductions which he made from the plaintiffs' claim were made on his own judgment and quite independently of the defendant. After reading it the Master of the Rolls said that he had never known of a more reckless charge being made, and there was not the slightest foundation for it. The appeal was therefore dismissed with costs.

In a multitude of councillors there is not always safety. The Scarborough Corporation are likely to be shortly in a position to testify that the old belief is not always applicable. A Marine Drive was constructed at enormous expense. But it suffered injury, and the question is whether the damage arose through defective construction, or through natural forces such as heavy gales and action of the waves of a kind which had not been anticipated. The Corporation called in Mr. James Walker to report, and the general tenor of what he said was considered to be unfavourable to the contractor. The contractor engaged Mr. C. A. Brereton to give a report, of which the effect is different. Mr. Brereton says:—"I found the wall generally, with the exception of a comparatively short length at the southern end, to be perfectly sound, notwithstanding the very severe tests it has been subjected to by heavy gales for some years. It is therefore evident that as regards construction the wall has fully answered its purpose, and it was only after the storm of January last, when the sea swept over the embankment and filled up the catch gullet which had been left open behind the work, and thus brought the pressure of many thousands of tons of water against the back of the wall, that the cracks in question were observed." He considers that there is no need to entertain any fears about the stability of the Drive, but he advises the drilling of holes from the upper surface wherever cracks are found, and filling the cracks with Roman cement and grout under pressure. Where the concrete blocks are disturbed he advises that they should be cut out and new blocks inserted. Drain-pipes with tide flaps are also required. It was proposed to construct a counterfort along the outside of the wall. But Mr. Brereton considers it would be undesirable and is not necessary. It remains to be seen which recommendation the Corporation will adopt.

JUDGING IN ARCHITECTURE.

When the case relating to the builders' claim for loss against the Asylum Committee of Canterbury and their architect was abandoned, the Judge remarked that if it had been proceeded with some interesting points of law would have been raised. What they were was not mentioned, and we can only speculate about their character. One was likely to be the right of the architect to refuse a final certificate to the contractor. There are lawyers who consider that the power claimed by an architect or engineer as supreme authority in whatever relates to the carrying out of a contract in which contractors acquiesce is liable to abuse. In the Canterbury case an effort was made to suggest that as the architect was inimical to the contractors and was continually quarrelling with them, he could not possess the judicial impartiality or freedom from bias which was required for the discharge of his duties as a quasi arbitrator. The allegation was not upheld, for the member of the firm who was the only witness was afraid of the test of cross-examination.

It is easy to understand the difficulty which a lawyer finds in approving of the exercise of judicial functions on a small scale by a man who was deprived of the advantage of the special training through which barristers and solicitors must pass. In arbitrations an architect or other selected person can have the benefit of a legal assessor, who will help to keep all the proceedings within the legal limits. But in dealing with a contractor, and especially with respect to a final certificate, there is no provision of that kind, and consequently it is imagined that there is an opportunity for arbitrary conduct. If it were more generally known what qualifications an architect possesses for equitable judging, perhaps there would be less doubt about the absolute fairness of withholding certificates or other decisive acts on his part.

M. Jourdain, the Bourgeois Gentilhomme, was amazed on learning that he had been speaking prose throughout his life. With no less truth it can be said that from the time of infancy we are constantly judging. Logicians who have attempted to classify mental operations have done so by the aid of symbols rather than by material objects. Psychology for a long period was subservient to logic, and adopted its methods. As a consequence, much was said about ideas, notions, abstractions, identifications, demonstrations, genus and species, &c., all of which could no doubt be utilised in practical affairs as if they were algebraic symbols, but which had supreme power over certain minds, and compelled them to believe that the logical expressions were sufficient for the purposes of thought. In the education of lawyers their influence is still strong, although less than formerly. It is still possible to have a lengthy suit relating to building without solicitors, counsel or judge being able to indicate by a sketch the forms of many of the details which are in question. One result of the old system is that, unfortunately, judgments are supposed by the multitude to be summarily expressed by the use of an adjective. At a picture exhibition the duty of the admiring spectator is usually discharged by describing a work as sublime or pretty, charming or sweet. The story goes that the late M. Henner put an end to the attempts at painting of M. Falguière, the sculptor, by saying of each of them it was "très bien" (or, as he pronounced it, "très pien"), which is the accepted form of the ordinary French judgment. Many a building is doomed to ill-repute and a decline in its letting value if somebody boldly describes it as vulgar. If the censor were asked to point out the vulgarities, that would require a mental process of a very different kind, for which in most cases he or she would be incompetent. Schopenhauer wisely remarked that the adjective is the enemy of the substantive. It is much more, for it is too often the cause of ridiculous opinions respecting works of art and literature. If they could be abolished people's judgments might become more rational, and justice in criticism would be less rare.

If you hear a man describe a picture as sublime and pretty, or that it is sublime because it is pretty, you would not care to make him an arbitrator in a case relating to some artistic transaction. One might go so far as to doubt whether he was competent to be a committeeman in an architectural competition, although the "man in the street" is supposed to have the essential qualities for the office. But the majority of judgments on things in general are as inane as those we are compelled to hear in Burlington House. People, as we have said, are always judging, but the majority in doing so are as foolish as the infant who concludes that a glaring piece of green or scarlet sweetstuff is better adapted for his purposes than one which is uncoloured. He is acting irrationally, but not more so than many of those who profess to have formed their own opinions, and who, unhappily for their neighbours, are not afraid to express them.

It is no doubt anomalous that we should be compelled by nature to go through various operations which rarely bring us any advantage. The mental machine keeps at work as long as it endures, and even when it is out of gear. Locke gave a homely description of what takes place when we judge, and which seems likely to be always applicable. "Judging is," he said, "as it were, balancing an account and determining on which side the odds lie. If, therefore, either side be huddled up in haste, and several of the sums that should have gone into the reckoning be overlooked and left out, this precipitancy causes as wrong a judgment as if it were a perfect ignorance." Locke might have said that the difficulties of reckoning in days when a knowledge of accounts was not general arose from the employment of ciphers. If the coins had been counted there would be no muddle. It is so in most things. Words have to serve like ciphers, and like them have a variable value, but generally it is of small account.

It is the advantage of the architect that his art is to him a training in judging which is accomplished not so much by the aid of words as of things. From the beginning of the simplest commission until it is carried out he is constantly compelled to deal with substances rather than with expressions for them. Other people can grow eloquent over the beauty of a site. The architect has to consider its material nature, and to decide what precautions must be taken for its drainage and to what extent it may support without assistance the heavy weights placed upon it. From the commencement of the building almost countless practical problems have to be solved by him. The most trifling defects can produce mischief. A brick which is intended for interior work, if by accident it finds its way among the heaps of those employed for the exterior, may cause inconvenience afterwards to the occupants of the building. All the qualities which other people can admire or condemn mean to the architect questions of length, breadth and thickness, and of weight. Questions of cost are always endeavouring to puzzle him. Should a painter think upon an improvement in a picture it only requires a little self-sacrifice on his part to remove what exists, and to substitute what he desires. But the architect must hesitate, for he knows that extras often mean over-charging, and are not unlikely to lead to litigation. Every day there are demands upon his judgment, and he must strive to keep the balance even in all that concerns the man who has engaged him and the man who is employed to carry out his instructions. When cases are brought into Court it rarely happens that the judges show an appreciation of all the work which has to be done. What a simple thing a negotiation for a site may appear, or negotiations in reference to claims for interference with light and air. Many people, in consequence, object to pay extra fees for work of that kind. But a stranger would be amazed if made aware how often that work is harassing, and a few hours occupied with the discussions can make a man unfit to perform any other work for a day. Indeed, some judges have held that the sketches which sometimes have to be made as an aid in negotiations should be thrown in gratuitously, as if they were no more than handbills for an entertainment.

It is not necessary for us to describe in detail the varieties of obstructions which may arise in the course of carrying out the contract. Building-owners sometimes complain that they never hear of difficulties until the time has come for the final certificate, and they wonder that each certificate for part payment did not mean that the instalment of the work was absolutely completed. They seem to think that all varieties of work in a building can be executed with as much ease as laying courses of brickwork. But brickwork needs "cleaning off" and other final touches which cannot be accomplished until other work is executed. The builder can claim as a right to do the work in the order to which he is accustomed, and interference with him, unless in special cases, would involve a building-owner in risks for which he would not be thankful to the architect. "He that does the first wrong is answerable for all consequential damages" is a maxim which has a peculiar application in building. The aim of the architect is to insure that the builder is not overpaid for the work he performs, while at the same time he akes care that the builder does not fall into financial difficulties while the work is in his hands. According o English law a contract is a single undertaking, and, f an agreement had not been entered into about partial payment from time to time, the Courts would not hold it to be a hardship if payment were only once made, viz. when the works were completed. It is magined that a final certificate only relates to those works which were executed towards the close of a contract. But in reality it is the summing-up of the whole istory of the contract. If there is hesitation in granting t, or a refusal to give it for an indefinite time, the ublic may take it for granted that it is no mere oversight in the final stages of the contract which has caused he resistance of the architect, but that objections to he work have been raised from time to time. The ower of delaying a settlement of the account has been conferred on the architect, or, as some would say, it has een assumed by the architect, without much favour rom the Courts, for the benefit of the man who builds. He must exercise his judgment along with his authority, nd generally it will be found that the contractor is reated as he deserves.

In using materials the architect has now to be more rcumspect than his predecessors. Everyone is aware hat the stone from a particular quarry is not uniform n quality. The beds first used may have produced one which has lasted for a century or more, while new eds may have little durability. There are not a ufficient number of testing establishments available to elp the architect in his selection. Then there are new aterials which are supposed to be without the defects f natural products. The architect has to discriminate adopting any of them, for he assumes responbility for their qualities. Indeed, one of the fferences which will be found in comparing old with odern specifications is the extent to which artificial aterials are now used. It is generally known they e safer, and if a sufficient quantity is employed in ilding there need be no misgiving about their trustorthiness. What we have described so briefly is ly the everyday procedure of architects, and we say at it is a school for developing the power of judgent. When it is added that the architect must deavour to uphold his client's interests against unicipal authorities and their officials, it cannot be nied that his principles are subjected to testing, and may have to realise that in administration there is no eal justice, and that in his judgments he must make owances for human weaknesses. That a man with ch constant and diverse training should be considered competent to decide when a certificate is to be held back is one of those class prejudices which are not founded on reason, and which can only arise from a defective manner of judging.

THE LIFE OF ARCHITECTURE.

THE Americans are such masterly adepts in advertising, we must give them credit for understanding all the oblique varieties which some believe to be the most persuasive. When we see in the *Architectural Record*, of New York, an article on "The Life of Architecture," with illustrations of works produced by the author's firm, one is at first disposed to assume that its main purpose is to draw attention to the author's skill as an architect. It must be admitted, however, that there can be little objection to a man who practises any art declaring the principles by which he is guided. The late Mr. Watts, who might be considered as morbidly modest, did not hesitate to describe some of his aims in painting. By doing so he must often have made clear many scenes which otherwise would have been enigmas to the multitude.

In architecture the scope for inventiveness is, however, more limited than in painting or sculpture. Suppose an architect believes that curves are never so effective as when seen in plans. In that case he would be eager to erect buildings like the Coliseum in Rome or the Albert Hall, churches like those of the Templars, and hospitals such as John Marshall, professor at the Royal Academy, advocated. But he would find it difficult to persuade people to give him a commission for a single building which would be round or oval. A circus has generally, unless it is a temporary structure, walls which are laid out in right lines. By-laws and urban regulations are all in favour of planes. In details there are also limitations which must be obeyed. Windows must be rectangles, or at most have curved heads. A circular window is always regarded with surprise.

Then we must also reckon with the influence of tradition. People may not be able to analyse the buildings they see, or will not trouble themselves with the attempt. But they can realise whenever a building fails to correspond with the general style of a street or a district. It is not difficult to discover in the streets of the Metropolis, and especially in the City, buildings with novel features which are wholly or partially unlet, while others which are of a simple or commonplace character in some mysterious way attract tenants. There is so much uniformity in the wants of people that a building which has to serve for ordinary purposes is almost bound to assume a character which has more or less familiarity. Life in architecture is to a large extent hampered by a number of circumstances, and creators find they cannot claim all the liberty which is needed. As in life of another kind, heredity has power which it is difficult to evade.

It is easy to see in the illustrations of Messrs. Pond & Pond's buildings that they have not the freedom they would desire. In buildings for towns they must respect the lines of the streets, although if projection were allowed the effect of their designs would be enhanced. They seek to gain compensation by the variety of their windows. In their country houses they show a desire to avoid monotony, and continuous lines do not gain much favour. But planning alone is insufficient to impart life. Originality in details is also to be desired, and that quality is not perceptible. There are signs of effort everywhere, and in time inspiration may come. It must be acknowledged that photographs cannot as yet render colour-schemes, and Messrs. Pond & Pond assign much importance to colour. One building is in cherry-red pavers or bricks trimmed with purplish-brown pavers. Another is described as having a purple-red body, brown trim, laid in light-grey mortar. A small but pleasing house is of vitreous-grey pavers laid on grey mortar and white trim.

Mr. Irving K. Pond's article would lead us to expect buildings that would be remarkable. But in his case, as in that of others, verbal expression may surpass designing power. A writer easily fashions an ideal which he can no more reach by his pencil or drawing-pen or brush than he can make Utopias. What can be more true than the following description of what is desirable in architecture?—

> Architecture is an art, and as an art it does not consist simply in piling up forms, old or new, but is a means of expression. Art is the expression, the beautified expression of life in such terms as the artist may choose, and architecture is no mean term. So whether the forms used are old or new, or both, to be vital they must be fused in the fire of individuality, for individuality is life, and in life alone is individuality; in death we are all alike. Architecture is not an impersonal art. It is in the highest degree personal, and it is not enough to say of it that architecture is no mean term of expression, for in architecture distinctly is the interpretation of the artist's own individuality, while the other arts, except perhaps musical composition and the literature of ideas, are but the means of interpreting nature through the individuality of the artist. In architecture we express ourselves in forms which we create; in the other arts we express our feelings toward and interpret nature in the forms which nature herself sets forth, and the further we depart from nature's normal forms the poorer is our art. If architecture is an art, and art consists in the expression of life, then that is neither architecture nor art which merely reproduces, even in new combinations, the old forms because they once were the accepted forms. That is a phase of archæology, and is unworthy of living architecture. Its effect is of death galvanised into seeming life.

Again, we are told that architecture cannot be conceived as a collection of units, but must be developed as a whole, and rationally, outward from within. That, of course, is the old law by which plan must govern the elevation. That is architectural order. "An order, it is said, is comprehended in rhythm. Mr. Pond tells us:—"That is the highest architecture in which the rhythmic action of the structural forces becomes apparent. Vertical forces in action, by the law of gravity, tend to work in right lines; horizontal forces acted upon by this same law tend to work in curves. Right line flows into right line through curve, and so no real architecture—and only structural architecture is real architecture—is perfect, from which either curve or right line is excluded. The right line adds to strength the sense of repose, the curve brings with it the joy of exhilaration; without the one any architecture is wearisome; without the other it is simply stupid. If through reasons of practicability the horizontal lines cannot naturally take on the springy rising curve, the applied ornament may be made to carry the eye along such a line and thus save the building from leaden sogginess."

Is it necessary to suggest the dangers to which a building is exposed? It is by no means certain that vertical forces always follow perpendicular lines. But what we have to concern ourselves with is the kind of action they have on materials. Now, the lines of pressure on a beam, that is, when subjected to a weight acting vertically, are expressed by curves. In a scientific sense a beam ought to be of parabolic form. Again, we know that a load upon a column has a tendency to make it curve in some direction, and it might be imagined that entasis was a tribute to mechanical as well as optical principles. No one likes to be constantly told that if he did not obey certain chemical laws with respect to food he could not live, and it is not a pleasant thought when looking at the different parts of our houses that an arch is evidence of one kind of danger and a column of another. The engineers may manifest mechanical laws as much as they please, and make it plain that if compression bars were turned into tension bars, or *vice versâ*, there might be a catastrophe. But the purpose of all art is to give pleasure, whether it be poetry or architecture, and it would be a crime against humanity to turn either of them into a croaker in order to make life less able to be endured.

Would it not be simpler and more rational to have a rhythm or contrast between curved or right lines simply for the delight they afford? The Mediæval architects gave us a lesson of that kind which should never be forgotten. They would have aided the preacher if they made it apparent, as they might easily have done, that if a pillar gave way and the roof fell down, the whole congregation would be killed without any time left for repentance. But they adopted the opposite course. They might have entered into a competition to discover who could make the slightest pillars. Whenever possible they made the roof resemble the sky, or they used groining which suggested that the masons were playing while at work; the most important parts of the outer walls were those formed of pictorial glass. The Mediæval architects knew all the dangers which awaited a building in which the materials were not skilfully disposed. They made arrangements to prevent catastrophes, but they did not suggest to the people what risks were combated by curved forms and what by straight. The life of Mediæval architecture could be considered as representing human life. The physiologists tell us our existence can only be reckoned by brief moments. But we must pity the man who reflected that when he made a step he might not have the power to make a second. There is much else in Mr. Pond's interesting article which is suggestive of the influence of science in American architecture, but we have said enough to indicate its tendency.

CANALETTO'S VIEWS OF VENICE.—IV.

The Foscari Palace, which appears so prominent on the right in the section of Canaletto's view of the Grand Canal, is now in a less perfect condition than it was in the eighteenth century. It was designed by Sansovino, but apparently he was not satisfied with it, for there was a concession to foreign or Gothic taste in the details. From the size of the building it was employed to lodge sovereigns who visited Venice. Francis I. was a guest in 1574. The building should have some interest for Englishmen, for Byron wrote a tragedy, "The Two Foscari," which relates to representatives of the founders. The transactions on which the play was based were characteristic of the ruling spirit in Venice. Francesco Foscari, the doge, died in 1457. Next to it is the Giustiniani Palace, another Gothic building, and a little further is the Rezzonico Palace. The principal object on the opposite side of the Canal is now known as the Palazzo Moro-Lini.

In last week's number we published a description which will suggest what was thought of Venice in 1831. We now give an extract from the "Letters of an Architect," by Nicholas Wood, which were written in 1816, and are likely to have expressed the opinion of English architects of that time. The lapse of a century has made a great difference in the manner of considering Venice:—

> If, on entering the Place of St. Mark, under the arcades, where once stood the church of St. Geminiani, you keep to the left and walk under the arcade on the northern side, you gradually obtain a view of the ducal palace. Another great edifice thus opening upon you stimulates the imagination and enhances the beauty of this square. Still further, you catch a view of the great harbour and some of the fine buildings around it, which still increases the variety of the scene without destroying its unity, and strengthens the sentiment. The ducal palace is even more ugly than any thing I have previously mentioned; it offers a double range of comparatively small arches, supporting a great wall with a few large windows in it. Considered in detail, I can imagine no alteration to make it tolerable, but if this lofty wall had been set back behind the two storeys of little arches instead of standing upon them, it would have been a very noble production. To recapitulate then the leading points of my observations on this famous Place, its effect is produced by the impression of power and riches everywhere displayed, and by a certain justness of proportion (the

result of accident, not of design) in the great masses, and this greatly heightened by the variety of scenery it displays. Take away the appearance of riches and power, and nothing remains; take away the justness of proportion, and you would have nothing that pleases. The union of the two is necessary to produce the impression which everybody feels and nobody can tell why. Some persons are of opinion that irregularity is a necessary part of its excellence. I am decidedly of a contrary sentiment, and am convinced that a regular design of the same sort would be far superior. Let an oblong of good architecture, but not very showy, conduct to a fine cathedral which should appear between two lofty towers and have two obelisks in front; and on each side of the cathedral, let other squares partially open into the first, and one of these extend down to a harbour or the sea-shore, and you would have a scene which might challenge anything in existence. I would not carry my symmetry so far as to make these two subsidiary squares alike; they never come into one view, and for the sake of variety it is better that they should be different.

After St. Mark's Place, and in some respects even superior to it, the scenery which most demands admiration is that of the harbour and of the canal of the Giudecca, which is a continuation of it. This affords a succession of great objects and of some individually very fine ones; as the Zecca, the Prigione, the church of St. George, and that of the Redentore. Other buildings not so good in themselves, yet by their mass and character have an importance which adds greatly to the magnificence of the Place. Such are the ducal palace and the church of Sta Maria di Salute. In what does this character consist? I should answer that it arose from the expression of unity of design, combined with considerable size. The ducal palace, with all its defects, has not that of being frittered into a number of small parts, into wings, pavilions and corps de logis. It is evidently one great public building, and a large church, especially a church with a dome, must be very badly managed not to have that appearance. The irregular winding of the canal of the Giudecca presents these objects in different points of view, while it always offers in itself a fine expanse of water. In a straight street or canal, when the parts are large and well disposed, a more magnificent effect is produced than it is perhaps possible to obtain by curved lines, but if the artist fail in this one point nothing remains. Among the numerous combinations arising from irregular forms, it is hardly possible that there should not be some good ones, and perhaps the variety and succession of scenery thus displayed is well worth the happiest effort of magnificence produced by straight lines, and may even by the reiterated impression produce upon the whole a sentiment of still greater sublimity. After the canal of the Giudecca comes the great canal, which, however, is comparatively very small, though large in relation to the little Rios, which divide Venice into a thousand islets. It winds like an S, and may vary from about 100 to 160 or 180 feet in width, and the number of fine houses which come successively into view, and the combinations they display with the smaller buildings, form a continued source of interest and pleasure. Few of these palaces are of good architecture, some of very bad; others are whimsical, but present among their strange forms many happy ideas. One very prevailing taste has been to put several windows very near together in the centre, while those of the sides are wide apart. Sir J. E. Smith complains that it cuts the building into two, and it does so when adopted in every storey, but in the best examples this arrangement is only followed in the principal, or at most in the two principal floors, leaving greater repose and plainness to the basement and upper storey, and the effect is then very pleasing. In the earlier examples of this sort the windows are Gothic-headed and frequently trefoiled. The architects immediately before Sansovino made them round-headed, and introduced a little more of Roman architecture in the details without altering the general disposition, and Sansovino himself frequently exhibits traces of this taste. The fashion seems to have prevailed all through the Venetian states, and in its earlier forms Verona exhibits better specimens than Venice itself. The architects of that period did not confine themselves to one disposition, but endeavoured sometimes to produce the appearance of a

A View of the Palace of Foscari on one ſide & of Lini on the other down to the Church della Carita centre by other arrangements of the windows, but still without making any break in the wall. Whatever the architecture of these Venetian palaces may be, their size and number produce a great show of magnificence. Venice appears the residence of princes. It must be confessed that in their present state they seem to be the dwellings of poor princes, but perhaps the ideas of wealth and power which no longer exist are not less interesting than those of present prosperity. They are, indeed, of a very different sort, but they harmonise better with the fallen state of Venice, fallen probably to rise no more, for the Austrian Government bestows its favour on other ports, and amidst the political revolutions with which Europe is still menaced one can hardly imagine one which would restore her power and consequence to Venice.

THE CHANTREY TRUST.

THE following memorandum by the Royal Academy on the report of the House of Lords committee on the Chantrey Trust has been issued:—

1. The Royal Academy have carefully considered the recommendations of the select committee of the House of Lords in the matter of the Chantrey bequest, and although they do not accept all the conclusions arrived at by the committee with regard to the merits of the Chantrey collection and other matters referred to in the report, they are anxious to meet the suggestions it contains.

2. They venture to think that the appointment of a committee of three, such as is proposed in paragraph 16 of the report of the committee, to select and buy works on account of the Chantrey fund, besides being in contravention of the will, is open to other objections.

3. It is unlikely that such a committee would be broader in their views than the whole Council of ten, or more impartial in the exercise of them.

4. Besides this there is the practical difficulty that, since works of sculpture as well as those of painting are purchased under the will, both arts should be represented on such a purchasing committee, which would in that case consist either of two painters and one sculptor, or the reverse, and might consequently fail to command the confidence of the general body of painters on the one hand and of sculptors on the other.

5. The Royal Academy propose, therefore, to appoint two or more sub-committees of not more than three members of the Royal Academy, each committee consisting of painters and sculptors alone, who would report on and recommend such works as are in their opinion proper to be purchased, the power of purchase remaining as at present with the Council.

6. The Royal Academy think that in this way the difficulties of the "search" for works (referred to in paragraph 12 of the report) by so large a body as the whole Council would be obviated, and that, as the Council would be the ultimate authority for purchase, the terms of Sir Francis Chantrey's will would be complied with, and his deliberate intention would be respected.

7. The Royal Academy have long been of opinion that it would be advantageous if the recommendations of the committee in paragraph 17 of their report, relative to the commissioning of works of sculpture from an original model already approved, could be adopted, but they consider that they should retain the right to refuse the finished work if it should not in their opinion be equal to the model.

8. The Royal Academy are of opinion that the disadvantages arising from the clause forbidding the purchase of works otherwise eligible according to the terms of the bequest, but not entirely executed within the shores of Great Britain, are not of sufficient importance, nor of such frequent occurrence as to demand any alteration in the will.

February 1905.

The following are the three paragraphs from the report of the House of Lords committee referred to:—

12. In offering some criticism of the past proceedings of the Royal Academy in this regard, the committee desire distinctly to record their belief that there is no ground for any imputation of corrupt or interested motives against that body. They are, however, of opinion that too exclusive a preference has been given to pictures shown at the annual exhibition of the Royal Academy, and that insufficient attention has been paid to other exhibitions. The unduly narrow construction placed on certain terms of the will by successive Councils has had unfortunate effects upon the collection, for while it seems probable that Sir Francis Chantrey conceived that purchases would most often be made from living artists, there is clearly no legal bar to other methods of purchase. The committee therefore suggest that a greater flexibility of method, by selection from studios, by purchase from private owners, and even occasionally at auction or from dealers, would largely increase the field of choice, and so tend to raise the standard of merit. The committee are of opinion that any purchases of works by deceased artists should only be made in exceptional circumstances and with great caution. They think it undesirable that any attempt should be made to buy the work of any artist not living at the date when the bequest came into operation in 1877. In cases where a foreign artist has regularly resided in Great Britain, especially when his work has notably influenced artistic production in this country, the committee consider that an effort should be made to acquire a worthy specimen of his art.

16. After careful consideration, the committee recommend the appointment of a committee of three, for the purchase of works of art in painting and sculpture, composed of the President, *ex officio*, of a Royal Academician appointed by the Council, and of an Associate of the Royal Academy nominated by the body of Associates. The elected members should be appointed to hold office for five years and should not be eligible for immediate re-election.

Regulations should be made by which the principal artistic societies in England and Scotland should be invited regularly to report to this committee, to whom the final powers of selection and purchase should be entrusted, the existence of important works of art.

17. It has been made clear in evidence that the effect of the judgment in "Leighton *v.* Hughes" has been prejudicial to the collection. The committee, therefore, recommend that some modification should be effected in the provision of the will which forbids the purchase of incomplete works of sculpture.

THE LIEGE HOUSING CONGRESS.

IN describing the International Housing Congress a correspondent of the *Liverpool Courier* says that the first day was devoted to the discussion of building dwellings, blocks *v.* cottages. The Germans said blocks, the Belgians said cottages, the English said both. Mr. Aldridge, secretary of the Housing Association, said cottages and not blocks. Mr. M'Neight, Liverpool, spoke in favour of the blocks, especially in the busy centres where the labourer must live near his work. And so each had his opinion.

In Belgium—so one gathered from the speakers—transit is cheaper and easier than with us. Thus, for instance, near Brussels, at Schaerbeek, they can build three-room dwellings to let at 14 francs a month and five rooms at 17 francs. Land is a little cheaper than in England and labour much cheaper, and the working man reaps the benefit. Again, the Belgian is more thrifty, and the building societies seem to flourish better than with us. The authorities have the use of the savings banks money at a very low rate of interest, and this is lent to the building societies.

On the rising of the Congress on Tuesday at four o'clock we were taken to the model village of Cointe. The twenty houses built for competition were all of different architectural styles. The Belgians are ahead of us in the conception of beauty, and we are ahead of them as regards sanitation. Let us, when we are setting to work, combine perfect sanitation and beauty.

The doors and windows of these model dwellings at Cointe were certainly things to copy, and the arrangement of the rooms was also clever, but I certainly thought the cellars a mistake. Every house had one. They add to the expense, and unless kept very clean would soon become in most cases a cause of disease. The cottages cost about 150*l.* to 200*l.*, and after the exhibition is over they are to be let. An old Belgian proverb says, "Un homme pauvre est roi dans sa maison," and at Cointe this will surely be true, for anyone living in these lovely cottages will be a king indeed.

I came to the conclusion that England, as already said, stands first in sanitation, Germany comes first in the planning of towns, and Belgium is first in the facilities given to the authorities and the people in building.

I must not forget to mention the competition for furnishing cottages. The furniture was simple and yet useful; the ware was enamel ornamented in pale colours; the wood was stained in nice shades; each room was in different colours. The living-room always contained a plain wooden table and chairs according to the size of the house. Some had rush seats, others all wood, and there were stools for the children. The bedrooms were very plainly furnished, and on the landings there was a recess for the clothes behind a curtain. There were no hooks behind the doors. The woman in charge told us that all the children are taught to hang their clothes outside the sleeping-room, a suggestion worth copying. There were no lace curtains at the windows; they were of linen instead, and act as blinds. The windows always open down the centre, and everywhere one sees windows wide apart to let the clean, fresh air in.

EARLY BABYLONIAN DRAINAGE.

The field director of the Babylonian expedition of the University of Chicago, Mr. Edgar James Banks, says:—It is generally supposed that it is only modern man who has perfected a system of drainage and sewerage to carry from his house and city the overflowing rain-water and the filth and garbage which accumulate. In the excavation of Bismya, the ancient Sumerian or pre-Babylonian city which flourished 4,500 years ago, a remarkable system of drainage, perfectly adapted to the alluvial plain of the Mesopotamian desert, has been discovered.

Babylonia is perfectly level; from Bagdad to the Persian Gulf there is not the slightest elevation, save for the artificial mounds or an occasional changing sand drift. In most places there is a crust of hard clay upon the surface, baked by the hot sun of summer time, so hard that it resembles stone. Parts of the desert are perfect for bicycle riding. Beneath the crust, which at Bismya is seldom more than 4 feet in thickness, and in places entirely lacking, is loose, caving sand reaching to an unknown depth.

Drainage in such a country, without sloping hills or streams of running water, might tax the ingenuity of the modern builder. In constructing a house, the ancient Sumerian of more than 6,000 years ago first dug a hole into the sand to a considerable depth; at Bismya several instances were found where the shaft had reached the depth of 14 metres beneath the foundation of the house. From the bottom he built up a vertical drain of large cylindrical terra-cotta sections, each of which is provided with grooved flanges to receive the one above. The sections of one drain were 48 centimetres in diameter and 60 in height; others were larger and much shorter; the thickness of the wall was 2.7 centimetres. The tiles were punctured at intervals with small holes about 2 centimetres in diameter. The section at the top of the drain was semi-spherical, fitting over it like a cap, and provided with an opening to receive the water from above. Sand and potsherds were then filled in about the drain, and it was ready for use. The water pouring into it was rapidly absorbed by the sand at the bottom, and if there it became clogged the water escaped through the holes in the sides of the tiles.

The temple at Bismya was provided with several such drains. One palace was discovered with four; a large bath, resembling a modern Turkish bath, and provided with a bitumen floor, sloping to one corner, emptied its waste water into one. The toilets in the private houses of 6,000 years ago were almost identical with those of the modern Arab house—a small oblong hole in the floor without any seat. Several found at Bismya were provided with vertical drains beneath.

In clearing out the drains a few of them, whose openings had been exposed, were filled with the drifting sand; others were half full of the filth of long-past ages; in one at the temple we removed dozens of shallow terra-cotta drinking cups, not unlike a large saucer in shape and size. Evidently it received the waste water of a drinking fountain, and the cups had accidentally dropped within.

In the Bismya temple platform, constructed about 2750 B.C., we uncovered a horizontal drain of tiles, each of which was about a metre long and 15 centimetres in diameter, and not unlike in shape those at present employed. It conducted the rain-water from the platform to one of the vertical drains. One tile was so well constructed that for a long time it served as a chimney for our house, until my Turkish overseer suggested that its dark, smoked end project from the battlements of the house, to convince the Arabs that we were well fortified; thus it served as a gun until the close of the excavations.

In other parts of the temple more elementary drains were employed to carry off the surface-water from the slightly inclined platform. It consisted simply of a groove constructed of bricks, or arranged by omitting the bricks in the floor; frequently the groove was continued down over the vertical edge of the platform.

The Babylonians of a later period, who buried instead of cremating their dead, carefully provided their cemeteries with drains. The graves were small house-shaped structures entirely or partly above ground, and whenever they were found upon the sloping side of a mound they were protected above by a breakwater, while along the sides were square, open brick drains. The result was that some of the graves, although thousands of years old, and constructed of unbaked clay, are still in a perfect state of preservation.

To the student of architecture it may be surprising to learn that the arch, until recently supposed to have been unknown to the ancients, was frequently employed by the pre-Babylonians of more than 6,000 years ago. Such an arch in a poor state of preservation was, a few years ago, discovered in the lowest stratum beneath the Babylonian city of Nippur. More recently an arched drain was found beneath the old city of Fara, which the Germans have excavated in central Babylonia. The city, although one of the earliest known, was built upon an earlier ruin, and provided with an arched drain constructed of small, plano-convex bricks. It measures about one metre in height and has an equal width.

While delving among the ruins of the oldest cities of the world, we are thus finding that at the time when we supposed that man was primitive and savage, he provided his home and city with "improvements" which we are inclined to call modern, but which we are only reinventing.

DISCOVERY IN SUSSEX.

An archæological discovery of considerable interest has been made at the ancient parish church of St. Mary, Aldingbourne, near Chichester. A new choir vestry is being added near to the western end, and, according to the *Sussex Daily News*, while cutting through the north side wall to form the necessary doorway the brick and flint rubble-work fell away and disclosed the decorated plaster of a very early stone archway. This decoration, which is of archaic design in circles and lines, both simple and effective in character, is quite possibly eleventh-century work, and the colours are singularly fresh and well preserved. The burnt earth from which the reds and yellows used was probably made is more permanent than our modern pigments, although exposure to the light and air after their long concealment will no doubt soon affect their brightness. The vicar, the Rev. Walter Kelly, M.A., whose watchful care over the many features of interest in his church is always much in evidence, is actively co-operating with the architects (Messrs. Clayton & Black, of Brighton) in preserving this, the latest additional attraction to a building which owes most of its charm to the very conservative manner in which it has been repaired and preserved without "restoration."

MANCHESTER SOCIETY OF ARCHITECTS.

Some members of this Society paid a three days' visit from August 4 to August 7 to study the charming stone buildings of the Cotswold district. Chipping Campden, probably the most interesting of a group of beautiful villages, was chosen for the headquarters, and provided ample material for study. Unfortunately heavy rain restricted the choice of subjects for sketching to those where some shelter could be obtained. This made the sedilia in the church particularly valuable, while the quaint market-hall afforded a refuge from the rain with a picturesque outlook. The workshops of the Guild of Handicraft were examined with interest. Sunday, the one fine day, was pleasantly spent in walking to Broadway, almost equal to Campden in its wealth of architectural interest. The Society has also made visits to Messrs. De Bergue & Co.'s ironworks and to the new Manchester fire station, Messrs. Woodhouse, Willoughby & Langham, architects. Each of these visits was of a very instructive character.

The London County Council have placed a memorial tablet on No. 34 Gloucester Square, Hyde Park, where Robert Stephenson, the engineer, resided at one time.

NOTES AND COMMENTS.

English architects have during the week often thought of Yattendon, where Mr. Alfred Waterhouse has been lying, and, unhappily, failing in strength. His vigorous constitution has for a long time resisted a grievous attack, but, we regret to say, there is now little hope of his surviving.

We published last week copies of the letters of Mr. A. C. Champneys and Dr. Honeyman respecting the restoration of Iona Cathedral. A few other remarks on the subject may be relevant. The plasterwork, the loss of which is so extravagantly deplored, was absolutely valueless, either from an archæological or an æsthetic point of view, with the exception of a few superficial yards near the floor on either side of the presbytery. Where any surface remained, it showed traces of decorative paintings in the form of arcading under crocketed pediments, apparently in the Perpendicular style. Dr. Honeyman tried to save it, and it has not been entirely destroyed. It would be quite practicable to restore the plaster, if it were not for fear of the ridicule with which the proposal would be received. The walls do not need to be buried out of sight. They display a great variety of harmonious colouring, from the dark red of the blocks of Ross of Mull granite to the jet black of some varieties of local stone. Nor was the plaster removed from the greater part of the walls, as Mr. Champneys asserts, by the hand of man under any mistaken idea, but by exposure to the elements. As regards the rows of corbels near the wall-head, they were explained in a paper read by Dr. Honeyman before the Glasgow Archæological Society last March, of which we published an abridgment. It is doubtful whether the ceiling rested on them. It is much more likely that the joists rested on the wall-heads, serving as ties as well as floor-joists, and that diagonal struts rose from runners on the corbels, at once stiffening the joists and improving the effect of the ceiling. The restoration of a floor of this description either way in the north transept, as Mr. Champneys suggests, would, in the circumstances, have been manifestly absurd, for apart from the consideration that such floors had been given up throughout the rest of the building, it will be evident that had the floor been inserted at the old level no windows of any kind could have been put in this gable except in the ridiculous manner recommended by Mr. Champneys—that is to say, looking into the upper storey of the adjoining domestic buildings, as these buildings are of the same width as the transept and their ridge rises nearly up to the level of its eaves. The only way in which a window so placed could possibly admit any light into the building would be by roofing the dormitory with glass, which Mr. Champneys might regard as in pleasing contrast to the commercial and badly-coloured slates on the other roofs. Even with an open roof a very restricted height was available for admitting much needed light to the north transept, and the circular form was best adapted for the situation. It is possible that in former times there may have been an open slype between the chapter-house and the transept, but that is not the case now. The wheel-window is neither commonplace nor an example of debased eclecticism, as Mr. Champneys suggests. It is specially designed to meet the requirements of the case. Can Mr. Champneys point out a single window, exactly the same as this in design and detail, either in ancient or modern buildings in England, Scotland, or Ireland?

The Industrial Museum in Berlin has become possessed of a silver fire-screen which is of more importance historically than decoratively. It is believed to have belonged to the Princess Sophia Dorothea, who was the sister of Frederick the Great, and was probably a present from her father. The king was fond not only of silver ornaments, but silver furniture; chairs and tables, desks, buffets and music-stands were made of it. Mirrors had not merely silver frames, but were surmounted by groups and attached ornaments of the metal. It is calculated that in 1715 there were no less than 437 examples of silver furniture. It is not to be supposed that they were employed from mere ostentation: if he were able the king would have substituted gold. His reason was that he had the precious metal always before his eyes instead of having it hidden in cellars where it would be difficult to see. The king, like his successor, was penurious in all things except those relating to war or military display. When Frederick the Great came to the throne it was not long before he attacked Austria. He imposed sacrifices on himself as well as on his subjects, and the wonderful collection of works in silver had to be cast into the melting-pot. It is believed that not one piece which belonged to the two Fredericks has survived. We can then realise the delight of all loyal Prussians in being able to see a fire-screen which probably corresponds in style with the vanished treasures. Silver was lavishly used for it, especially in the floral decoration, and the princess no doubt congratulated herself that her present had an intrinsic value which the variations of fashion could not diminish. In some of the German cities an occasional piece of silverwork is yet preserved, and Russia still possesses several.

ILLUSTRATIONS.

CATHEDRAL SERIES.—WAKEFIELD: CHANCEL ARCH AND SCREEN.

The screen which forms so prominent a feature in the view published this week is only partly in keeping with the style of the masonry. But few would care to have the upper part of the screen sacrificed and Gothic traceries substituted for what is Jacobean. The upper part is elaborately carved with figures of dragons, lions' heads and other elements, including the fleur-de-lis which was long associated with Wakefield. The frieze, however, is no more than a copy of the original carving. The central doors were removed early in the nineteenth century, and they were lying *perdu* in the parvise when Mr. Micklethwaite discovered them, and had them again set up when the chancel was being restored. The roof of the chancel, it will be observed, is divided into squares, each having four subdivisions. At the intersections of the large squares are elaborate bosses carved with monograms, badges and symbols. The seats in the chancel are likewise richly ornamented.

HOUSES AT MITCHAM, SURREY.

These houses have recently been erected for Mr. A. R. Harwood at a cost of 1,600*l*. The materials are Lawrence's orange-red bricks and rough-cast, and the roofs are covered with Pascal's red Wrotham tiles. The builders were Messrs. G. P. & H. Barnes, of Streatham, and the architect Mr. H. P. Burke Downing, F.R.I.B.A., of 12 Little College Street, Westminster, and Merton, Surrey.

SEASIDE COTTAGE AT LLANDUDNO.

This small compact residence was planned for families of two, hall and dining-room forming one large room easily separated, with a den or study. Windows are large for sunshine and the lovely views of Welsh scenery. The materials are local limestone with brick backing and rough-cast to upper parts; green slate roofs. Cost 540*l*., exclusive of land, garden fencing or drainage. The architect is Mr. C. O. Nelson, Holborn, London.

NEW ENTRANCE HALL TO MOORVIEW, NEAR ROTHERFIELD, SUSSEX.

This work consists of formation of new entrance hall and doorway in Portland stone, and staircase window, &c., and red brick main walls, oak staircase and door. Mr. C. O. Nelson, Holborn, London, is the architect.

SEMI-DETACHED HOUSES, KENLEY.—HOUSE AT OXTED.—HOUSES FOR SOUTH AFRICA.

THE BRITISH ASSOCIATION.

T was arranged that this year's meeting of the British Association for the Advancement of Science should be ld in South Africa. Accordingly the first part of the esident's address was delivered on Tuesday in the City all, Cape Town, the second part being reserved for the eeting in Johannesburg. The president for the year is ofessor G. H. Darwin, F.R.S., second son of the late arles Darwin, and who is Plumian Professor of Astromy and Experimental Philosophy at Cambridge. In the urse of his address the President said:—

I shall try to set forth some of the attempts which have en made to formulate evolutionary speculation. This oice of a subject has, moreover, been almost forced on e by the scope of my own scientific work, and it is, I ink, justified by the name which I bear. It will be my ult and your misfortune if I fail to convey to you some rt of the interest which is naturally inherent in such searches. The man who propounds the theory of evolun is attempting to reconstruct the history of the past by eans of the circumstantial evidence afforded by the esent. The historian of man, on the other hand, has the lvantage over the evolutionist in that he has the written cord of the past on which to rely. The discrimination of e truth from amongst discordant records is frequently a ork demanding the highest qualities of judgment; yet hen this end is attained it remains for the historian to nvert the arid skeleton of facts into a living whole y clothing it with the flesh of human motives and impulses. For this part of his task he needs much of that ower of entering into the spirit of other men's lives which es to the making of a poet. Thus the historian should ossess not only the patience of the man of science in the alysis of facts, but also the imagination of the poet to asp what the facts have meant. Such a combination is rely to be found in equal perfection on both sides, and it ould not be hard to analyse the works of great historians as to see which quality was predominant in each of them. he evolutionist is spared the surpassing difficulty of the uman element, yet he also needs imagination, although of a ifferent character from that of the historian. In its lowest rm his imagination is that of the detective who reconructs the story of a crime; in its highest it demands the ower of breaking loose from all the trammels of conention and education, and of imagining something which as never occurred to the mind of man before. In every se the evolutionist must form a theory for the facts before im, and the great theorist is only to be distinguished from e fantastic fool by the sobriety of his judgment—a disnction, however, sufficient to make one rare and the other nly too common.

Until recently theories of evolution in both realms of ature were partial and discontinuous, and the chains of cts were correspondingly short and disconnected. At ngth the theory of natural selection, by formulating the ause of the divergence of forms in the organic world from e parental stock, furnished the naturalist with a clue, by hich he examined the disordered mass of facts before im, and he was thus enabled to go far in deducing order here chaos had ruled before, but the problem of reducing e heap to perfect order will probably baffle the ingenuity f the investigator for ever. So illuminating has been this ew idea that, as the whole of nature has gradually been -examined by its aid, thousands of new facts have been rought to light, and have been strung in due order on the ecklace of knowledge. Indeed, the transformation resultg from the new point of view has been so far-reaching as lmost to justify the misapprehension of the unscientific s to the date when the doctrines of evolution first originated the mind of man. It is not my object, nor, indeed, am competent, to examine the extent to which the theory of atural selection has needed modification since it was first rmulated by my father and Wallace. But I am surely justied in maintaining that the general principle holds its place rmly as a permanent acquisition to modes of thought. Evotionary doctrines concerning inanimate nature, although of uch older date than those which concern life, have been rofoundly affected by the great impulse of which I have poken. It has thus come about that the origin and history f the chemical elements and of stellar systems now occupy far larger space in the scientific mind than was formerly e case. The subject which I shall discuss to-night is the xtent to which ideas, parallel to those which have done so uch towards elucidating the problems of life, hold good lso in the world of matter, and I believe that it will be ossible to show that in this respect there exists a resemblance between the two realms of nature, which is not merely fanciful. It is proper to add that as long ago as 1873 Baron Karl du Prel discussed the same subject from a similar point of view in a book entitled "The Struggle for Life in the Heavens." Although inanimate matter moves under the action of forces which are incomparably simpler than those governing living beings, yet the problems of the physicist and the astronomer are scarcely less complex than those which present themselves to the biologist. The mystery of life remains as impenetrable as ever, and in his evolutionary speculations the biologist does not attempt to explain life itself, but adopting as his unit the animal as a whole, discusses its relationships to other animals and to the surrounding conditions. The physicist, on the other hand, is irresistibly impelled to form theories as to the intimate constitution of the ultimate parts of matter, and he desires further to piece together the past histories and the future fates of planets, stars and nebulæ. If, then, the speculations of the physicist seem in some respects less advanced than those of the biologist, it is chiefly because he is more ambitious in his aims. Physicists and astronomers have not yet found their Johannesburg or Kimberley; but, although we are still mere prospectors, I am proposing to show you some of the dust and diamonds which we have already extracted from our surface mines. The fundamental idea in the theory of natural selection is the persistence of those types of life which are adapted to their surrounding conditions, and the elimination by extermination of ill-adapted types. The struggle for life amongst forms possessing a greater or less degree of adaptation to slowly-varying conditions is held to explain the gradual transmutation of species. Although a different phraseology is used when we speak of the physical world, yet the idea is essentially the same.

These considerations lead me to express a doubt whether biologists have been correct in looking for continuous transformation of species. Judging by analogy, we should rather expect to find slight continuous changes occurring during a long period of time, followed by a somewhat sudden transformation into a new species, or by rapid extinction. However this may be, when the stability of a mode of motion vanishes, the physicist either finds that it is replaced by a new persistent type of motion adapted to the changed conditions, or perhaps that no such transformation is possible, and that the mode of motion has become extinct. The evanescent type of animal life has often been preserved for us, fossilised in geological strata; the evanescent form of government is preserved in written records or in the customs of savage tribes; but the physicist has to pursue his investigations without such useful hints as to the past. The time-scale in the transmutation of species of animals is furnished by the geological record, although it is not possible to translate that record into years. As we shall see hereafter, the time needed for a change of type in atoms and molecules may be measured by millionths of a second, while in the history of the stars continuous changes occupy millions of years. Notwithstanding this gigantic contrast in speed, yet the process involved seems to be essentially the same. It is hardly too much to assert that, if the conditions which determine stability of motion could be accurately formulated throughout the universe, the past history of the cosmos and its future fate would be unfolded. How indefinitely far we stand removed from such a state of knowledge will become abundantly clear from the remainder of my address. The study of stability and instability, then, furnishes the problems which the physicist and biologist alike attempt to solve. The two classes of problems differ principally in the fact that the conditions of the world of life are so incomparably more intricate than those of the world of matter that the biologist is compelled to abandon the attempt to determine the absolute amount of the influence of the various causes which have affected the existence of species. His conclusions are merely qualitative and general, and he is almost universally compelled to refrain from asserting even in general terms what are the reasons which have rendered one form of animal life stable and persistent and another unstable and evanescent. On the other hand, the physicist, as a general rule, does not rest satisfied unless he obtains a quantitative estimate of various causes and effects on the systems of matter which he discusses. Yet there are some problems of physical evolution in which the conditions are so complex that the physicist is driven, as is the biologist, to rest satisfied with qualitative rather than quantitative conclusions. But he is not content with such crude conclusions except in the last resort, and he generally prefers to proceed by a different method. The mathematician mentally constructs an ideal mechanical system or model, which is intended to represent in its leading features the system he wants to examine. It is often a task of the utmost difficulty to devise such a model, and the investigator may perchance unconsciously drop out as unimportant something which is really essential to represent actuality. He next examines the conditions of his ideal system, and determines, if he can, all the possible stable and unstable configurations, together with the circumstances which will cause transitions from one to the other. Even when the working model has been successfully imagined, this latter task may often over-tax the powers of the mathematician. Finally it remains for him to apply his results to actual matter and to form a judgment of the extent to which it is justifiable to interpret nature by means of his results. The remainder of my address will be occupied by an account of various investigations which will illustrate the principles and methods which I have now explained in general terms.

The fascinating idea that matter of all kinds has a common substratum is of remote antiquity. In the Middle Ages the alchemists, inspired by this idea, conceived the possibility of transforming the baser metals into gold. The sole difficulty seemed to them the discovery of an appropriate series of chemical operations. We now know that they were always indefinitely far from the goal of their search, yet we must accord them the honour of having been the pioneers of modern chemistry. The object of alchemy, as stated in modern language, was to break up or dissociate the atoms of one chemical element into its component parts, and afterwards to reunite them into atoms of gold. Although even the dissociative stage of the alchemistic problem still lies far beyond the power of the chemist, yet modern researches seem to furnish a sufficiently clear idea of the structure of atoms to enable us to see what would have to be done to effect a transformation of elements. Indeed, in the complex changes which are found to occur spontaneously in uranium, radium and the allied metals we are probably watching a spontaneous dissociation and transmutation of elements. Natural selection may seem, at first sight, as remote as the poles asunder from the ideas of the alchemist, yet dissociation and transmutation depend on the instability and regained stability of the atom, and the survival of the stable atom depends on the principle of natural selection. Until some ten years ago the essential diversity of the chemical elements was accepted by the chemist as an ultimate fact, and, indeed, the very name of atom, or that which cannot be cut, was given to what was supposed to be the final indivisible portion of matter. The chemist thus proceeded in much the same way as the biologist who, in discussing evolution, accepts the species as his working unit. Accordingly, until recently the chemist discussed working models of matters of atomic structure, and the vast edifice of modern chemistry has been built with atomic bricks.

But within the last few years the electrical researches of Lenard, Röntgen, Becquerel, the Curies, of my colleagues Larmor and Thomson, and of a host of others, have shown that the atom is not indivisible, and a flood of light has been thrown thereby on the ultimate constitution of matter. Amongst all these fertile investigators it seems to me that Thomson stands pre-eminent, because it is principally through him that we are to-day in a better position for picturing the structure of an atom than was ever the case before. Even if I had the knowledge requisite for a complete exposition of these investigations the limits of time would compel me to confine myself to those parts of the subject which bear on the constitution and origin of the elements. It has been shown, then, that the atom, previously supposed to be indivisible, really consists of a large number of component parts. By various convergent lines of experiment it has been proved that the simplest of all atoms, namely, that of hydrogen, consists of about 800 separate parts, while the number of parts in the atom of the denser metals must be counted by tens of thousands. These separate parts of the atom have been called corpuscles or electrons, and may be described as particles of negative electricity. It is paradoxical, yet true, that the physicist knows more about these ultra-atomic corpuscles and can more easily count them than is the case with the atoms of which they form the parts. The corpuscles, being negatively electrified, repel one another just as the hairs on a person's head mutually repel one another when combed with a vulcanite comb. The mechanism is as yet obscure whereby the mutual repulsion of the negative corpuscles is restrained from breaking up the atom; but a positive electrical charge, or something equivalent thereto, must exist in the
atom, so as to prevent disruption. The existence in
atom of this community of negative corpuscles is certa
and we know, further, that they are moving with spe
which may in some cases be comparable to the velocity
light, namely, 200,000 miles a second. But the mechani
whereby they are held together in a group is hypotheti
It is only just a year ago that Thomson suggested,
representing the atom, a mechanical or electrical mo
whose properties could be accurately examined by mat
matical methods. He would be the first to admit that
model is at most merely a crude representation of actuali
yet he has been able to show that such an atom m
possess mechanical and electrical properties which simul
with what Whetham describes as "almost Satanic exactnes
some of the most obscure and yet most fundamental p
perties of the chemical elements. "Se non è vero, è b
trovato," and we are surely justified in believing that
have the clue which the alchemists sought in va
Thomson's atom consists of a globe charged with positi
electricity, inside which there are some thousand or tho
sands of corpuscles of negative electricity, revolving
regular orbits with great velocities. Since two electri
charges repel one another if they are of the same kind, a
attract one another if they are of opposite kinds, t
corpuscles mutually repel one another; but all are attract
by the globe containing them. The forces called into pl
by these electrical interactions are clearly very complicat
and you will not be surprised to learn that Thomson fou
himself compelled to limit his detailed examination of t
model atom to one containing about seventy corpuscl
It is indeed a triumph of mathematical power to have d
termined the mechanical conditions of such a miniatu
planetary system as I have described.

It appears that there are definite arrangements of t
orbits in which the corpuscles must revolve if they are
be persistent or stable in their motions. For the purpo
of general discussion, which is all that I shall attempt, y
may take it that the number of corpuscles in such a co
munity is fixed, and we may state that definite numbers
corpuscles are capable of association in stable communiti
of definite types. An infinite number of communities a
possible, possessing greater or lesser degrees of stabilit
Thus the corpuscles in one such community might ma
thousands of revolutions in their orbits before instabili
declared itself. Such an atom might perhaps last for
long time as estimated in millionths of seconds, but it mu
finally break up, and the corpuscles must disperse or r
arrange themselves after the ejection of some of the
number. We are thus led to conjecture that the sever
chemical elements represent those different kinds of co
munities of corpuscles which have proved by their stabili
to be successful in the struggle for life. If this is so, it
almost impossible to believe that the successful species ha
existed for all time, and we must hold that they originat
under conditions about which I must forbear to follow S
Norman Lockyer in speculating. But if the elements we
not eternal in the past, we must ask whether there
reason to believe that they will be eternal in the futur
Now, although the conception of the decay of an eleme
and its spontaneous transmutation into another eleme
would have seemed absolutely repugnant to the chemi
until recently, yet analogy with other moving systems seem
to suggest that the elements are not eternal.

At any rate it is of interest to pursue to its end t
history of the model atom which has proved to be so su
cessful in imitating the properties of matter. The law
which govern electricity in motion indicate that such a
atom must be radiating or losing energy, and therefore
time must come when it will run down, as a clock doe
When this time comes it will spontaneously transmut
itself into an element which needs less energy than wa
required in the former state. Thomson conceives that a
atom might be constructed after his model so that its deca
should be very slow. It might, he thinks, be made to ru
for a million years, but it would not be eternal. Such
conclusion is an absolute contradiction to all that wa
known of the elements until recently, for no systems
decay are perceived, and the elements existing in the sola
system must already have lasted for millions of year
Nevertheless, there is good reason to believe that in radiu
and in other elements possessing very complex atoms, w
do actually observe that break-up and spontaneous re
arrangement which constitute a transmutation of element
It is impossible as yet to say how science will solve thi
difficulty, but future discovery in this field must surel
prove deeply interesting. It may well be that the train

ht which I have sketched will ultimately profoundly the material side of human life, however remote it ıow seem from our experiences of daily life.

SOME ASPECTS OF ANCIENT AND MODERN EMBROIDERY.*

E origin of our word embroidery is relatively modern, although the art of embroidery is of great antiquity. seems to be no one corresponding word in Latin or which is so comprehensive in possible meaning as f our word embroidery. According to various autho- it is derived from the French word "broder," which turn throws back to some Celtic source, such as the n word "brouda," to pierce, the Welsh word "brodio," ıbroider, and the Gaelic word "brod," a goad. Al- h we can use our word embroider in different senses, we use it to indicate ornamentation done with ds as an enrichment to some textile or flexible rial, we have of course in our mind work of stitchery with a needle. But I hope to show you that em- ery may be equally well descriptive of thread orna- ation done in a manner less like that of needlework that of shuttle-weaving. In this case the thread nentation plays a part in the actual construction of a e. In the course of my two lectures on "Aspects of ent and Modern Embroidery"—and you will therefore rstand that I am not attempting to give a com- ensive historical sketch of embroidery—I shall, ıgst other matters, try and make clear by illustrations haracteristic feature (1) of embroidery as a method to ruct or to complete the texture of a material partly n in a loom, and (2) of embroidery as the needle- ıed embellishment of an otherwise complete woven rial. In the one case I think you will see that the roidery is a necessary part of the woven material rated with it, whilst in the other it is an addition, and efore not essential to the construction of the material i which it appears. Both, however, have a charac- tic in common, which justifies each being called roidery in a popular sense, as each is an expression ıreads of ornamental intention. Moreover, each in- es the use of an implement, which, however different casion required, was called by the Romans at least by ame name of acus.

Acus was a generic name, in fact, for a pointed imple- t. It meant equally such various things as the tongue buckle, a hairpin, a bone or wooden pointed instrument, and small, as well as a needle with or without an eye and, as compared with modern steel needles, a good bigger and coarser. In one shape the acus resembled mitive shuttle or bobbin, in another a skewer. At one we read of it as a needle, indispensable to the natrix, or mender of clothes; at another it is the pin which the ornatrix, or slave who looked after the hair- sing and adornment of her mistress, fastened the loops plaits of her hair together and fixed sundry ornaments er costume. In another shape the acus was the par- ar instrument of the plumarius, who was a worker of ment in coloured threads, and, so far as I can judge, lly adopted a sort of weaving or darning method for work. Needle-stitched embroidery may have been by another set of workpeople. It is, however, to e two distinctly different methods of ornamental thread- k that I wish to direct some attention; and we shall how at one period the two methods seem to have concurrent in practice and how at other times or other seems to have been the more ordinary hod of embroidery. In whichever of its shapes we rd the instrument required for each method, whether species of weaving or darning needle, or as one par- larly adapted for stitching, it is in both aspects the stiff- ıted continuation of the flexible thread in use. Un- ered by such contrivances as determine the possible ements of a machine, the needle in embroidery moves rding to the taste and ingenuity of the fingers guiding nd sweeps with perfect freedom along the surface or ugh the thickness of the stuff. Like pen or pencil it be made to trace forms of any complexity, and, in two ds, it writes and it draws. Used with a variety of ured threads its function resembles that of a brush in icting tones and shades. The Romans frequently spoke of painting with a needle—"acu pingere"—and the craftsman who did such work was called "pictor," or painter.

In those days little, if any, distinction was made between the painter with a brush and the painter with a needle. Each seems to have had an equal standing with the other. Both usually were members of the body of slaves employed by a wealthy family, and we read that the members of such bodies were architects, builders, plasterers, statuaries, sculptors in low relief, decorative wall-painters, weavers, embroiderers, gardeners and the like. In the earlier times of the Roman emperors, the larger number of these slave artists and artificers attached to households were Greeks, whose ancestors for generations previously were, as we know so well, pre-eminently dexterous in all branches of art. Thus, as between Rome and Greece, we have an obvious continuity in the practice of such an art as embroidery, and of this we have several valuable and substantial pieces of evidence, to some of which I shall refer shortly. From Roman times down to the present proofs of corresponding continuity are more plentiful.

In a previous course of lectures which I gave here ten years ago, I suggested various methods by which embroideries were wrought by Egyptians, Assyrians, Babylonians and other more or less neighbouring Oriental people who were in frequent intercourse with one another during the two or three thousand years immediately B.C. I do not again review these methods, nor do I propose to touch on that extensive field covered by the embroidery of the Japanese, Chinese, Persians and Indians. In regard, however, to ancient Egyptian embroidery, a discovery made quite lately seems to have a very special interest for us in proving the prolonged use of that one method of embroidery which I have mentioned as a weaving or darning method. We can trace its employment in Greece and in Rome. When one finds at one end of a period the employment of a method which is in full practice at the other end of the period, it is, I think, fair to assume that such a method has had a continuous life during the whole period. Without having the material evidence which has now been obtained, I suggested in my lectures on "Egyptian Tapestry Weaving," in 1889, that this weaving or darning embroidery must have been in use at least 600 years B.C. I am therefore glad to find that my suggestion has been more than verified by the recently discovered fragment of the embroidered dress found with a mummy bearing the name of Amenothes II., whose date is about 1450 B.C., or some hundred years before the Exodus.

It is of linen and wool; the different emblems and devices are of coloured wools, which, being darned in between and over the unwoven linen warp threads, complete the whole texture of the piece. The ornament of the border is composed of alternating flowers and buds, a version of the very ancient flower and knop pattern. Amongst the symbols we see that of royalty, consisting of two asps, one bearing the head-dress or crown of Upper Egypt and the other that of Lower Egypt—and their two upturned tails merge into one another over the disc or solar emblem. The illustration does not show with distinctness the threads of the weaving and those of the embroidery, but in a bit of corresponding make the characteristic of the method—in expressing ornament, at the same time making a fabric—is easily seen on a larger scale. The tapestry wall-hangings of the fourteenth century and onwards were made in this manner; and later in my lectures, as instances of a revival of the method, I shall show an illustration of one or two small articles, such as pouches, which were made last year in this country. This method, however, which we find to have been common in use for centuries, is not much mentioned in the various books on embroidery as holding an important place in the history of embroidery: it is indeed usually ignored altogether. As a means of embroidering costume and domestic cloths, &c., it is undoubtedly much slower and involves more labour than needle-stitched work. Its practice was compatible with the comparatively less rapid conditions of ancient times, and it is not surprising to find that, with the more extended activities of later times, it died out. Needle-stitched embroidery developed and proved itself to be of readier use and in some respects more telling in its effect than the darning embroidery.

With the Greeks of, say, the fourth century B.C. this darning embroidery seems to have been as usual a method for ornamenting woven stuffs as the needle-stitched embroidery. It appears to have been an occupation chiefly for women, and I have not come across a mention of Greek

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A Cantor Lecture by Alan S. Cole, C.B., delivered before Society of Arts and published in their Journal.

men embroiderers, none at least corresponding to that of Roman men embroiderers. In Greece, as, for instance, at Athens, embroidery was made almost solely for the very wealthy. It was done in their houses, where rooms were reserved for the women, who rarely went outside, living as enclosed a life as that of the cloistered nun of later times. The chief occupation of the Greek women, besides housework and preparing meals, consisted of spinning, weaving and embroidery. Their work-rooms, without wooden floors or glass windows, gave on to inner courtyards, and, as compared with the ordinary modern English workroom, were no doubt somewhat draughty and not too well lighted. Still, it was in such quarters that the Grecian women lived their lives and pursued their occupations. As a class they were treated more or less as children in seclusion; their mothers and nurses were their teachers, and beyond receiving a smattering of general education the girls were trained in domestic work only. Time was of little account, so that a slow and regular acquirement of skill led to excellent work in such materials, linen and worsted, as were then available for it. From the indications we have, the patterns from which the weaving and embroidery were done must have been well drawn, and often of an intricate character. In some districts families or groups of women were bound by law to make festival garments for holy images. For instance, every four years, upon the recurrence of the Panathenaic festival, a selection of Attic maidens wove and embroidered for the figure of Athenæ a peplos ornamented with portraits of celebrated men. Elsewhere sixteen matrons were required to produce a peplos for the statue of Hera at Olympia, and, again, noble maidens of Argos discharged a similar task for a statue of Artemis, whilst those of Sparta worked a robe for Apollo. Thus embroidery was not merely a home industry or occupation followed by individuals in respect of their own wants, but an art craft necessary for purposes of public ceremonial.

Of the very few illustrations on Greek vases, &c., of women actually engaged in some sort of embroidery, I have chosen one, which I now throw on to the screen. The seated woman is completing work in a small hand-frame. The kind of work is, I think, that of the darning and weaving to which I have referred; here, however, it appears to be in course of making, quite independently of linen. A larger frame would be necessary for linen cloths which were to be ornamented and completed with darning embroidery. A remnant or two of such Grecian work is preserved in the Hermitage, at St. Petersburg, and these I now show. The first displays a border of lotus-like blossoms darned or woven in coloured worsteds in between parts of an ordinary shuttle-woven material.

The next specimen worked in the same method is powdered with ducks. These specimens date from about the fourth century B.C., and so, too, does that shown in the next slide. The work here is of needle-stitched chain-stitch embroidery of fair yellow-linen thread upon a reddish woollen material. The ornament of this latter piece is a good deal more elaborate than that of the two previous pieces. It is rather difficult to decipher it from the fragments. I have, therefore, made a drawing which I think correctly represents the pattern from which our Grecian embroideress would have worked her cloth or peplos. From these examples, and bearing in mind that the number of dyes was very limited, and that silks with all their shimmering effects were not obtainable, we may conclude that Grecian embroideries before Christ were as a rule rather sombre in tone in comparison with the many-coloured silken embroidery intermixed with gold and silver threads of, say, 1,500 years later. Distinctly Greek in style, with its repeated anthemions or honeysuckle devices, is this next specimen. It is of darning embroidery, and is the border—or paragauda, as the Romans termed it—to the neck of a tunic. The circumstances under which it was discovered point to its being probably seven or eight centuries later than the previous Grecian embroideries. It is, in fact, Grecian work of a rather late Roman period, say about the third or fourth century A.D.

Now as regards embroidery in Rome during a period before the Christian era, we find that its condition as a home occupation or industry for women corresponded closely with its condition in Athens. It was followed in the quarters set apart for women in the houses of the richer class. These rooms, called in Greece "gunaikonites," were gynecea in Rome; but the gynecea of the Romans were less closely supervised by their Roman mistresses, and did not preserve for so long a period as the Gre did their domestic, as distinct from a trade, character. luxury increased the quarters allotted slaves in a Ror town or country house seem to have become conve into workshops suitably equipped and organised as tr workshops. The exterior rooms about Roman town m sions consisted frequently of shops and trade workroom "tabernæ," as they were called—whilst the owner of mansion probably had, in the earlier times at least, a call upon the services of the various artificers employe the premises surrounding his mansion; later on th artificers and their workrooms served the public. S development of Roman shops and trade workrooms see to have been accompanied by the formation of workme societies, associations, or, as they were called, collegia op cum. Amongst such associations were those of weavers embroiderers. Their workshops were known as textrinæ, in the first century A.D. there were several of them in famous Vicus Tuscus which ran from the Via Sacra p the Basilica Julia. It was indeed a sort of Regent Stre noted not only for the textrinæ, but also for its perfu shops, and for the public processions which usually pas down it. The workshops of the weavers and embroider were generally one storey in height, and were eviden better than the underground dwellings of such craftsmen Germany and parts of Northern Italy, of which Pliny to note, no doubt as being remarkably different from workrooms he was accustomed to see in Rome. T interior of a shop for the sale of textiles is given in Pompeiian wall-painting preserved in Naples, and m quite well serve to represent a similar Roman shop, and show that the conduct of business in a shop then w practically the same as it is now. I wish I could have fou an illustration of weavers and embroiderers at work. Fr descriptions, however, it is certain that the weavers or te tores worked as a rule in company with a set of artifice called plumarii. Varro, writing in the first century A. particularly distinguishes the trade of the textores weavers from that of the plumarii or embroiderers, a says that instruction in painting was a necessary part their training.

The aspect which I have so cursorily given of the text craftsmen and women in Rome corresponded doubtle with that of similar craftsmen in such Roman towns Alexandria in Egypt and Antioch in Syria. From Alexandr and other Egyptian towns under Roman influence ma ornamented textiles were imported by Rome, and a fashi for such things seems to have prevailed for many years, support of which we now possess a large quantity of spec mens taken from burying-grounds in parts of Egypt. Th greater number of them are embroideries done in th darning method to which I have already called your atte tion. Several of them are from designs distinctly Roma in style. Priory to the discovery, some twenty-five yea ago, of these embroideries, a good deal of discussion too place as to the precise nature of work done by the plumariu In his "Gallus" Becker comes to the conclusion that th plumarius did not adorn with needlework garments alrea made, but wove ornament in some special manner. As f as this conclusion goes it is sound, but it is now, I thin carried still further by the specimens which we possess Roman or Egypto-Roman darning or woven embroider the technical method of which may be accepted as th special kind of work done by the plumarii. "Opu plumarium" is often mentioned in inventories of th thirteenth century, at which time the completion and ador ment of stuffs with inwoven embroideries had been supe seded by needle-stitched embroidery. The term "opu plumarium," as used in the thirteenth century, seems to b merely the survival of a term from Classic times, and is n descriptive of long and short or feather-stitch needl embroidery. The Roman "opus plumarium" of the firs few centuries A.D. seems to me to be exemplified by suc specimens as I will now throw on the screen. You wi notice that the method of work is the same as that we sa in the Egyptian cloth of Amenothes II., and in one or tw examples of Greek work of the fourth century B.C.

Here is a square panel of this Egypto-Roman work The group of figures, somewhat rudely rendered, is evidentl from a design of Roman origin. Venus is seated, Vulca is raising his hammer and Mars is about to draw or ha just sheathed his sword. Panels of this description abou 8 or 9 inches square were wrought on to the skirts o tunics.

Similar work was done on cloths, tablecloths and cushio covers, as in this slide. Here again the figures and animal rather rude in rendering, but they are just such as may seen, somewhat better drawn, in Pompeiian paintings.

Here is a tunic with large sleeves, ornamented with two ad bands of darning embroidery. This type of dress s in ordinary use in Rome during the first few centu- A.D. Many tunics were more elaborately decorated with narrower bands. Here are a few specimens of h narrower bands, all of darning embroidery, which, h the woven linen about it, completes the fabric. The tre band with vases and baskets in alternation is dis- tively Roman in style.

We have not much evidence of needle-stitched em- idery at this period, and little more, I am afraid, than a e light is thrown upon the employment of women in tile arts by such an illustration as the one now shown. is taken from a painting in a manuscript of the fifth tury A.D., which is known as the Genesis fragment of the perial library at Vienna. One lady with the child at her ee is spinning or winding thread, and the other one may haps be doing some sort of embroidery. At this date h persons wore costumes plentifully ornamented, and fashion was censured from the pulpit by Asterius, hop of Amasia, in Pontus. "Every one," he said, "is ger to clothe himself, his wife and his children with stuffs namented with flowers and numberless figures, and to h an extent is this done that when the wealthy classes w themselves in public little children gather round them crowds and point their fingers at them, making merry their expense. The more religious of the wealthy classes uire artists to supply them with subjects taken from the w Testament." Some idea of this condition of ornate stume may be got from the well-known sixth-century saic of the Empress Theodora and her ladies at venna. I imagine that the greater quantity of the namentation here displayed was of darning embroidery, d little, if any, of needle-stitched embroidery.

The four specimens on this slide are of needle-stitched rk, and that on the lower left corner is possibly of sixth seventh-century work from a design which is, for that ne, of fairly good standard. It is wrought in silks of illiant colours—crimson, green, yellow, &c., the forms of figures and their draperies being outlined in black. e other three bits are obviously worked from poorly- awn designs; all of them, however, are of a Christian igious character. These embroideries were wrought ginally on tunics worn by Romans or Byzantines who ed in Egypt, but they none the less serve to illustrate a le of embroidery which was equally familiar with mans and Byzantines living in their own countries.

(*To be concluded.*)

A GIFT TO MERTON.

HE late Mr. John Innes, of Merton, Surrey, who died on August 8, 1904, aged seventy-five years, leaving tate of the gross value of 338,026*l.*, has left to his trustees e freehold premises known as the Merton Boys' Club, to rmit Mr. Edward Pillinger to carry on the said club, arging him the nominal rental of 5*l.* per annum, but ying an annuity of 200*l.* to enable him to continue to rry on the said club. His house, the Manor Farm, erton, with 11 acres of ground, is left to his trustees, upon e following trusts:—As to his said house and 2 acres of ound, upon trust to establish thereon a school of horti- lture or such other technical or industrial institution as e law will allow, to give technical instruction in the prin- les of the science and art of horticulture and the necessary ysical and mental training incidental thereto; to erect itable buildings and furnish them, and to provide orkshops, tools, plant, scientific apparatus, libraries, ading-rooms, lecture and drill-halls, a swimming- th and gymnasium. If this may not be legally rried out, then to establish in these buildings a public useum for the exhibition of collections of paintings d similar works of art, objects of natural history, of mechanical or philosophic inventions, and to lay out nd for a park in which they are to make suitable pro- sion for the practice of cricket, football, lawn tennis, oquet, bowls, the practice of archery, the meeting and illing of volunteers or other military bodies and for the lding of athletic sports; and, further, to erect in a suitable sition in the said park a pavilion or glass hall suitable r the giving of musical or other entertainments and for e practice of indoor amusements, and to transfer the said nd, buildings, equipment, &c., to the Charity Commissioners, the local authority or some other suitable public body. The residue of his estate is left for realisation, and the trustees, subject to the payment of certain legacies and annuities, are to carry into effect the objects for which he had devised his house and lands, and in contributing to the support of, or to the establishment of, such charitable institutions or towards such charitable objects as his trustees may in their sole discretion select, preference being shown (but not so as to restrict the power of selection of his trustees) to such charitable objects as are for the public benefit of the inhabitants of the parishes of Merton and Morden, or towards such charitable institutions and objects as the testator had contributed to in his lifetime.

FOREIGN EXPLOSIVE FACTORIES.

A REPORT has been prepared by Captain M. B. Lloyd and Captain A. P. H. Desborough, two of the inspectors of explosives who have been upon a visit to factories and testing stations in Belgium, Germany and Holland. In the factory of the Compagnie de la Forcite, near Baelen, the new buildings which are being erected are in accordance with what is, the inspectors say, a novel plan. This consists of making the buildings circular in the ground plan, and lighting them entirely from the roof by means of a patent glass, having wire netting in it. The mounds are then erected right up against the walls of the building, and exceeding them in height by several metres. For this method of construction it is claimed that the force exerted by an explosion will expend itself in a vertical direction, but the validity of this claim has not yet been tested.

A curious measure of safety was found in operation in a factory at Halpern, near Düsseldorf, where the houses are connected by gutters running through tunnels in the mounds, each end of such tunnels being closed with a heavy wooden door and having an arrangement similar to that of a railway signal, indicating to the manager at almost every point in the factory whether the doors are open or shut. In both the nitrating and washing houses there were cylinders of compressed carbonic acid gas continually connected with the air-pipes, so that in the event of a failure of the air supply the stirring can be continued with this gas if necessary.

At Troisdorf particularly, and in a less degree at all German factories, the inspectors were impressed by the great attention paid to the comfort and well-being of the workpeople in the matter of providing dining and dressing-rooms, the latter generally having facilities for bathing and many other special conveniences.

In a factory at Schlebusch, where only nitro-glycerine explosives are produced, an excellent arrangement has been installed in the nitrating and separating house, whereby, in the event of an alarm, all the cocks to the drowning tanks can be turned on by means of a piston driven by compressed air, which can be operated by turning on a small air-valve outside the mound of the building. The rules prohibit the presence of any persons in the incorporating-houses while the machines are running, and to insure the observance of this rule an ingenious contrivance has been designed whereby the gates leading to the house must be shut before the machine is started, and cannot be opened again until it has been stopped.

PAINTING TESTS.*

A COMMITTEE of the Society has outlined a method of conducting painting tests for protective coatings, this method demanding proper attention to all those details which are essential to the attainment of accurate results. These tests, when carried out by the sub-committee having them in charge, should prove of inestimable value. There are other paints, however, which, though "protective," are used for the purpose of producing a desired finish of appearance. Most paints are of this kind, and I propose, with your permission, to say a few words about painting tests made, using this class of paints.

Let us, to start with, take the question of the relative "covering power" of paints. To my mind, the term "covering power" has only one proper meaning; that is, the power to hide the surface painted. It is, as Dr. Dudley has pointed out, a function, first, of the light-destroying or absorbing power of the constituents of a paint, and, second, of the difference in refractive index between the pigment and vehicle. Whatever it may be caused by, however, we are more interested in the actual facts of the case than in the reasons therefor. In comparing two paints for covering power, it is generally understood that these two paints should have practically the same colour and be very nearly alike in tone, for the eye is not able to note accurately the difference in covering which exists between paints of different colours or tones. When we compare two paints of the same colour and tone for covering power, our work is somewhat simplified when it is borne in mind that very few paints are homogeneous as regards pigment. Most paints contain several pigments, the principal one being a white pigment of some kind. Only with straight white or dark colours is the pigment likely to be homogeneous. Furthermore, with the coloured paints consisting largely of white pigment, the tinting material is so fine that only a very small amount is usually needed to give the tint desired. In this case the actual covering power of the paint is principally dependent upon the white pigment present. Our greatest interest, therefore, centres around the covering power of white paints, for when we wish to design a paint of a certain colour we usually select a given white paint and add to it such colouring materials as have the highest possible tinting power, and of which consequently we have to add the least amount possible. The result is that, practically speaking, tests for covering power are demanded for white paints only, and it is of these that I desire to speak.

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* A paper read before the American Society for Testing Materials, by Gustave W. Thompson, and published in the *Engineering Record*.

On the threshold of our inquiry we are confronted by two difficulties. The first of these has to do with the amount of vehicle we are to use to get the "consistency proper for painting." In the present state of the art there is apparently no method for determining this consistency; the consistency proper for painting is simply a matter of rule of thumb. There is nothing standard about this consistency; it may be one thing in winter, another in summer; one thing with a flat brush, another with a round brush, and still another with the squirt gun. We have a refuge, however, and that, it seems to me, is the only safe one. When we have mixed our paint to a "consistency proper," in our opinion, "for painting," let us record the formula on which we prepared the paint and let our report state this formula in full detail. If the paint was a prepared or ready-mixed paint, then the analysis of the paint should also be reported in as nearly formula form as possible. In other words, we may have difficulty in determining what is the consistency proper for painting, but we need have no difficulty in recording the composition of the mixture which was used in making a given test for covering power, and this, in the present state of the art, is all that we can ask.

The second difficulty which presents itself is in the adoption of a spreading rate per gallon of paint. There can in practice, of course, be no standard spreading rate, and yet we have found that any white paint which has, according to our experience, a consistency proper for painting can be readily brushed out so as to cover 1,200 square feet to the gallon of paint when applied to a fairly smooth surface, and in most cases, if it is not spread out at that rate, the paint will run. We solve this difficulty of the spreading rate at which the paint is to be applied in the same way that we solve the difficulty in connection with the consistency proper for painting; that is, we simply make the spreading rate followed a matter of record.

To illustrate, let us suppose that we have received two paints which we desire to compare for covering power; these paints, we will say, are prepared paints—that is, they have been thinned to a "consistency proper," in the manufacturer's opinion, "for general painting." We would, first of all, analyse these paints to determine the formula on which they were prepared. Inasmuch as the pigments in the two paints may vary in composition, and, consequently, in specific gravity, we make a determination of the weight per gallon of paint as received, and knowing the percentage by weight of the vehicle present, we calculate the percentages by volume of vehicle and pigment present, which gives us a somewhat better conception as to the nature of the paints. All the information we have thus obtained is recorded. Our next step would be to compare these two paints as to the relative ease with which they can be spread over the same area, without any particular regard to their covering power. If we find that they can be spread over the same amount of surface without, as is usual, great difficulty, we adopt a standard spreading rate for the two paints—say, 1,200 square feet to the gallon, one coat—a apply the paints to standard prepared surfaces at that ra and when we are through we compare the paints for th covering power or power to hide the surfaces painte Now let us compare this method of making a painti test for the covering power of white paints with the meth usually followed. Jones has a paint that he wants teste He takes it to his friend Brown, the painter, and wants h opinion. Brown reports in a few days that the paint received from Jones covered better than any paint he h ever used. Now, Brown may have been perfectly hone in making this report to Jones, but unless the formula which the paint was mixed and the rate at which it w spread is given, Brown's opinion is worse than useless.

We describe here more in detail our method of co paring white paints for covering power. Use white pi boards, 30 inches long by 10 inches wide, and approx mately 1 inch thick. Each end of the board is provide with a cleat having a tongue fitting into a groove on the en of the board and securely nailed on. The entire boar including the cleats, is to be finished to the size give above. Three of these boards are primed with, we will sa the following paint mixture:—White lead paste, 100 lbs linseed oil, one-third boiled, 75 lbs. No attempt is made secure a definite amount of priming paint to the unit surface; this for the reason that the boards may var considerably in their absorptive power. When this primin coat is dry each board receives a diagonal stripe of lam black in japan about 1 inch wide on one or both sides of th board, as may be desired. When this black stripe is dr it is given a second coat of paint mixed to a consistenc proper for painting, the formula being recorded. Th weight per gallon of the paint so mixed is then obtained b finding its specific gravity and multiplying by 8.33, whic gives the weight per gallon. Inasmuch as the boar which we are using has a total surface of 680 squar inches, all we have to do is to find what the ratio is betwee 780 square inches and the spreading rate at which w desire to apply the paint in order to find the fraction of th gallon which we wish to apply to each board. If the rat adopted is 1,200 square feet to the gallon, then we get th formula—680 square inches : 1,200 square feet : : 1 : *x*, th reciprocal of *x* being the fraction of a gallon of paint to b applied to each board, one coat. Having the weight of th paint per gallon, we easily get the amount of paint b weight to apply to each board, one coat on all sides. Whe this second coat of paint is thoroughly dry a similar coat i applied, and when dry the boards can be compared for th covering power of the paints on them. We mention th painting of three boards with each paint to be compared the purpose of this is that variations in results are obtaine between boards which are apparently painted in an identica manner. These variations are not great, but it is though best to eliminate them, to a certain extent, by paintin three boards and selecting the one giving medium result for comparison with boards painted with other paints.

Tests conducted along these lines, we believe, will giv valuable and scientific results and will enable the intelligen person to draw safe conclusions.

Let me state here, by way of illustration of the usefulness of this method, one of the results obtained by test comparing pure white lead and linseed oil with a mixtur of white lead and a small amount of barytes with lins oil. The pure white lead was mixed on the formula o 100 lbs. of white lead paste to 30 lbs. of linseed oil. Tw mixtures containing barytes were made on the sam formula as the white lead and pure linseed oil, except tha to the pure white lead was added an amount of barytes corresponding to 10 per cent. by volume of the whit lead present, and the amount of oil was also increased 10 per cent., so that the mixed paint contained in each case the same percentage of pigment by volume and the same amount of oil by volume. Another mixture was made, adding 20 per cent. by volume of barytes to the sample of white lead paint and a corresponding amount of oil. These three paints were then compared by the above method for covering power and spread at the uniform rate of 1,200 square feet to the gallon. The result was that both paints containing barytes showed a very perceptible diminution in covering power. Now, this illustration has not for its purpose the saying of anything in favour of white lead and against barytes, but simply to show that if the statement is made that a small percentage of barytes can be added to white lead without impairing its covering power, some explanation must be made as to the method by which such sult is obtained. If in any painter's hands the result been found that the addition of a small percentage of tes did not impair the covering power of the white lead, ust have been due either to the fact that less oil was , or that less surface was covered per gallon of the t containing barytes than by the straight white lead.

erhaps the most important test that can be applied to ts is a durability test; that is, a test as to the permanency e paint film itself. Boards painted, as in the making of covering power tests described above, can be exposed e weather and the durability of the paint films observed. ability tests to be of value should be conducted with the e care as the covering power tests. The formulas on h the paints were mixed should be recorded, also the per gallon at which they were spread.

uite recently painting tests with a view to observing the bility of various paints were reported on to the Inter- onal Association of Master Painters and Decorators, the results obtained were published generally in the t journals. Undoubtedly these tests were conducted scientiously, and the conclusions reported give honest ions about the results obtained. We feel, however, pelled to question these results for several reasons ch appear very important. In the first place, single rds only were painted with each paint and exposed. east three boards should have been painted and exposed gside of each other, and the board which showed results ut the average of the three should have been selected comparison with other paints similarly selected. Very uently it will be found that two boards painted arently in the same manner and with the same paint show differences in results due to differences in the rds themselves. In the second place, the formulas on ch the paints were mixed are not stated with sufficient ail. In the third place, there is no information en as to the spreading rate at which the respective nts were applied. Considering any two of the boards, the nt on one board may have been twice as thick as on the er for all we know to the contrary. We have very little bt that the thicker the paint film the greater its dura- ty. This emphasises the importance of having painting s conducted under the supervision of the engineer or mist. The ordinary master painter is, we believe, roughly competent to interpret results and to conduct d tests on full-size structures, but when it comes to pre- ing boards for exposure special training is required, h as the chemist or engineer only can be said to have.

To conclude, no matter what the painting test may be, ether it be of coloured paints or white paints, whether e with homogeneous or mixed pigments, whether it be covering power or durability, the essential features that should insist upon are that the formula of the paint uld be stated fully; that the thickness of the film, or at is the same thing, the rate at which the paint is ead, should also be stated. These two requisites of per painting tests should also be demanded in all tests the permeability of paint films or their permanency, no tter how these tests may be applied. If we wish to npare two paint films for their permeability by the trine test, we should know, to start with, that these two ns have approximately the same thickness. It is a safe umption that the thicker the paint film the less its meability. If we desire to compare two paint films for ir permanency, we should know that these two paint ns are of the same thickness, as the elasticity and general of the film are proportionate to its power of resistance oxidising influences, and the thicker the film the more manent are its inner parts.

TESSERÆ.

The Roman Velarium.

HE Campanians invented the means of stretching awnings over their theatres. Quintus Catulus introduced em at Rome, when he celebrated games at the dedication the Capitol. Lentulus Spinther, a contemporary of cero, first erected fine linen awnings (*carbasina vela*). ius Cæsar covered over the whole Forum Romanum and Via Sacra, from his own house to the Capitol, which was eemed even more wonderful than his gladiatorial exhibi- n. Dio mentions a report that these awnings were of , but he speaks doubtfully, and it is scarcely probable t even Cæsar's extravagance would have carried him so . Silk at that time was not manufactured at Rome, and we learn from Vopiscus that even in the time of Aurelian the raw material was worth its weight in gold. Wool, however, was the most common material, and the velaria made in Apulia were most esteemed on account of the whiteness of the wool. Those who are not acquainted by experience with the difficulty of giving stability to tents of large dimensions and the greater difficulty of erecting awnings, when, on account of the purpose for which they are intended, no support can be applied in the centre, may not fully estimate the difficulty of erecting and managing these velaria. Strength was necessary both for the cloth itself and for the cords which strained and supported it, or the whole would have gone to shivers under the first gust of wind, and strength could not be obtained without great weight. The least diameter of the Coliseum is nearly equal in length to the Menai bridge, and if the labour of stretching cords over the one seems small in comparison with that of raising the ponderous chains of the other, we may take into consideration the weight of cloth which those cords supported and the increase of difficulties arising from the action of the wind on so extensive a surface. In boisterous weather, as we learn from Martial and other authors, these difficulties were so great that the velum could not be spread. The difficulty of the undertaking has given rise to considerable discussion as to the means by which the Romans contrived to extend the velum at such a height over so great a surface and to manage it at pleasure. Sailors were employed in the service, for the Emperor Commodus, who piqued himself on his gladiatorial skill and used to fight in the arena, believing himself mocked by the servile crowd of spectators when once they hailed him with Divine honours, gave order for their slaughter by the sailors who were managing the veils. Concerning the method of working them, no information has been handed down. It is evident, however, that they were supported by masts which rose above the summit of the walls. Near the top of the outer wall of the Coliseum there are 240 consoles, or projecting blocks of stone, in which holes are cut to receive the ends of spars, which ran up through holes cut in the cornice to some height above the greatest elevation of the building. A sufficient number of firm points of support at equal intervals was thus procured, and this difficulty being overcome, the next was to stretch as tight as possible the larger ropes upon which the whole depended for its stability.

Mediæval Chimneys.

That there were no chimneys in the tenth, twelfth and thirteenth centuries seems to be proved by the so-called ignitegium or pyritegium, the curfew-bell of the English, and couvre-feu of the French. In the Middle Ages, as they are termed, people made fires in their houses in a hole or pit in the centre of the floor, under an opening formed in the roof; and when the fire was burnt out or the family went to bed at night, the hole was shut by a cover of wood. In those periods a law was almost everywhere established that the fire should be extinguished at a certain time in the evening, that the cover should be put over the fireplace, and that all the family should retire to rest, or at least be at home. The time when this ought to be done was signified by the ringing of a bell. William the Conqueror introduced this law into England in the year 1068, and fixed the ignitegium at seven in the evening in order to prevent nocturnal assemblies, but this law was abolished by Henry I. in 1100. The ringing of the curfew-bell gave rise also to the prayer-bell as it was called. Pope John XXIII. with a view to avert certain apprehended misfortunes, which rendered his life uncomfortable, gave orders that every person on hearing the ignitegium should repeat the Ave Maria three times. When the appearance of a comet and a dread of the Turks afterwards alarmed all Christendom, Pope Calixtus III. increased these periodical times of prayer by ordering the prayer-bell to be rung also at noon. The oldest certain account of chimneys occurs in the year 1347, for an inscription which is still existing, or did exist at Venice, relates that at the above period a great many chimneys (*molti camini*) were thrown down by an earthquake. This circumstance is confirmed by John Villani, the historian, who died at Florence in 1348, and who calls the chimneys *fumajuoli*. Galeazzo Gataro, who in the "Dictionary of Learned Men" is named De Gataris, and who died of the plague in 1405, says in his "History of Padua," which was afterwards improved and published by his son Andrew, that Francesco da Carraro, lord of Padua, came to Rome in the year 1368, and finding no chimneys in the hotel where he lodged, because at that time fire was kindled in a hole in the middle of the floor, he caused two chimneys, like those which had been long used at Padua, to be constructed and arched by masons and carpenters whom he had brought along with him. Over these chimneys the first ever seen at Rome, he affixed his arms, which were still remaining in the time of Gataro.

Paving in Rome.

That neither the streets of Rome nor the roads around it were paved during the time of its kings is well known. In the year 188, after the abolition of the monarchical form of government, Appius Claudius, who was then censor, constructed the first real highway, which was as properly called after him the Appian Way, as it was named on account of its excellence the queen of roads. The time, however, when the streets began to be paved cannot with certainty be determined; for the passage of Livy, from which some have endeavoured to prove that it was in the year 578 after the building of the city, is inconclusive, as it will admit of various explanations equally probable. It may be read, without forcing the sense, as if Livy said that the pavement of the streets was then covered with sand for the first time; that the streets were then first paved at the public expense, or that the paving of them was then performed for the first time by contract. Besides, we are told by Livy himself that the censors in the year of the city 584 caused the streets to be paved from the oxen market (Forum Boarium) to the Temple of Venus, and around the seats of the magistrates in the great circus; but the information of the same historian that the ædiles in the year 459 caused the streets to be paved from the Temple of Mars to the Bovile and from the Capena gate to the Temple of Mars does not apply here, as some have imagined; for the Temple of Mars was without the city, and the author speaks not of streets but of highways. The extravagant Heliogabalus caused the streets around the palace, or on the Palatine mount, to be paved with foreign marble. The inspection of the streets belonged to the ædiles; and, under certain circumstances, occasionally to the censors. In the course of time, however, particular officers, *curatores viarum*, called on account of their number *quatuor viri viarum*, were appointed for that express purpose. Thus we are told that the two brothers, Publii Malleoli, when curule ædiles, caused the Mons Publicius to be paved so that carriages could pass from the street Velia to Mount Aventine. That streets paved with lava, having deep ruts made by the wheels of carriages and raised banks on each side for the accommodation of foot passengers, were found both at Herculaneum and Pompeii, is well known from the information of various travellers.

GENERAL.

The King has accepted the honorary membership of the Regia Accademia Raffaello of Urbino, which was founded in 1869.

A Congress of prehistoric archæology will be held in Perigueux from September 26 to October 1. There will be excursions to the grottoes of Vezere, which have already yielded marvellous examples.

The First International Congress of Art, to be held at Venice from September 21 to 28, will be divided into four sections:—(1) International exhibitions, international competitions; (2) artistic tuition, means of developing and diffusing artistic culture; (3) public art, means of harmonising the sentiment of beauty with the demands of modern life, the æsthetic problem in relation to the social problem; (4) international agreements for the protection of artistic heirlooms.

The Designs submitted in a recent competition by Messrs. G. Baines & Son, 5 Clement's Inn, London, for the new Baptist church and schools at Consett, co. Durham, have been adopted.

The International Competition for designs for the Palace of Peace at The Hague closes on March 15, 1906. A sum of 133,000*l.* is at the disposal of the committee. The first premium amounts to nearly 500*l.* There are four other premiums, of which the lowest is 120*l.* Full particulars may be obtained from the Dutch Government architect, M. Knuttel, 16 Fluweele Burgwal, The Hague.

The Council of the Royal Sanitary Institute have accepted the invitation to hold their annual congress and exhibition in Bristol in July of next year. Mr. J. Lane Notter states that he feels sure a meeting in Bristol, one of the most important centres in the United Kingdom, will tend gre to promote the objects of the Institute—the diffusio sanitary knowledge and the improvement of public heal

The Estates Commissioners propose to erect sev farmhouses and cottages in Ireland, and it is believed hollow concrete blocks could easily be produced for construction.

Mr. A. B. Skinner has been appointed Director of Art Museum at South Kensington, to succeed Sir C. Pur Clarke on his resignation of that office. The Educa Board are considering the advisability of making arrangements in regard to the relations between the cou of advice for art and the work of the Art Museum, wit view to enlarging the scope and functions of the cour and at the same time extending the responsibilities of Director in certain directions.

A Claim for compensation was brought by the Norw Life Insurance Society against the London County Coun It was in respect of the compulsory sale to the Council o strip of frontage, area 1,210 square feet, forming part of site of Nos. 39, 40 and 41 St. James's Street, and 42 James's Street, Nos. 162, 163, 164 and 165 Piccadilly Villiers Place. The premises had a total area of 6,525 squ feet, and 5,314 square feet were thus left in the claima possession. For the claimants the value of the site w estimated from 51,000*l.* to 52,949*l.* For the County Coun the value was calculated at about half that sum. The j 41,000*l.*

Mr. Moray Williams, of Bedale's School, Petersfield, t summer commenced excavations, and has laid bare portic of a Roman villa, which promises to show features special interest, at West Meon, Hampshire. For t present the work has ceased, and it is premature to gi any description until the whole has been dug out. Thr living rooms have been uncovered, and also the hypocau the details of which are uncommon. On the western w of the villa was a solidly built buttress to counteract t thrust of the building, which stands on the slope of a hill.

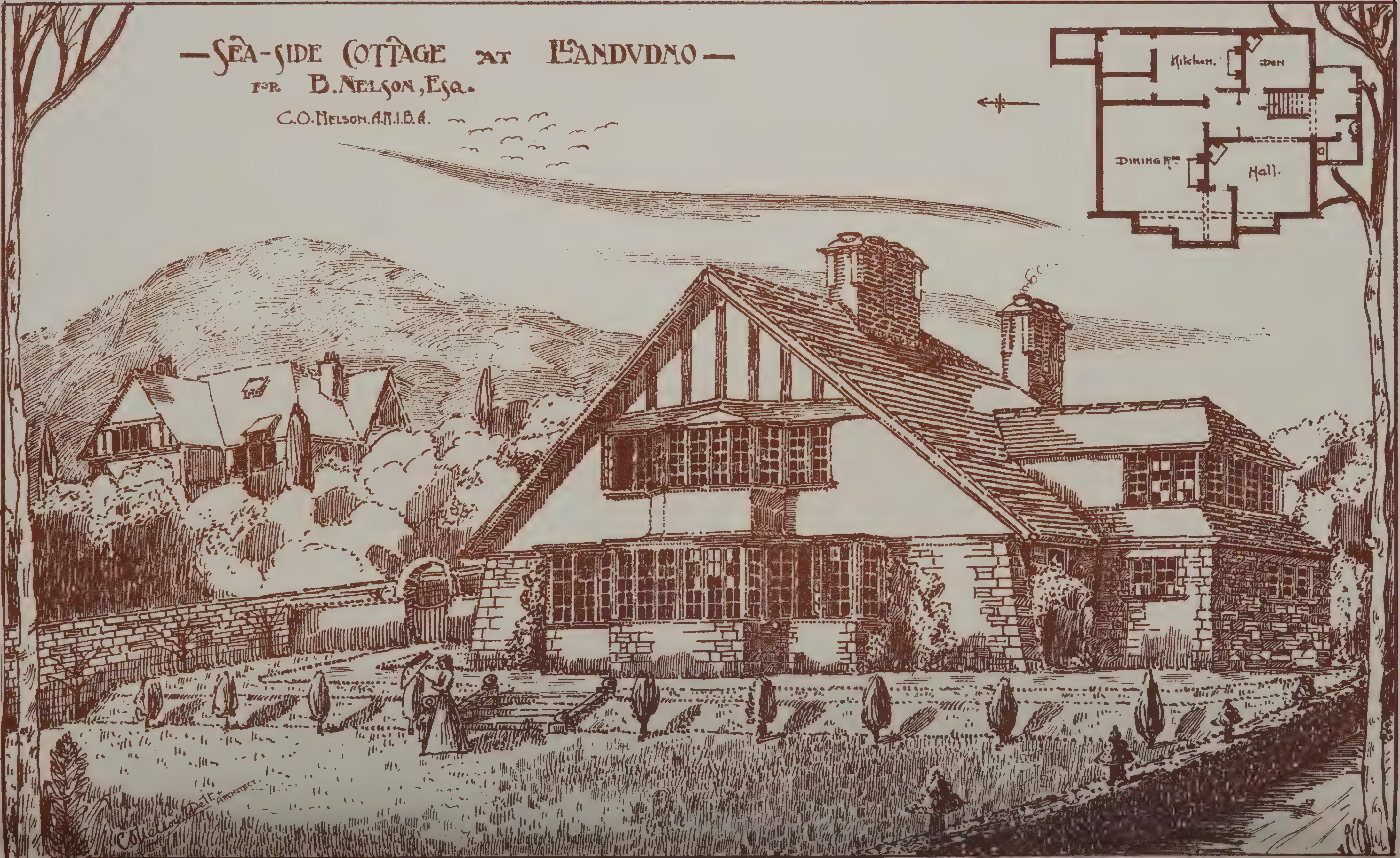
The *Chichester Diocesan Gazette* invites the clergy devote some of their leisure to the history of their o church bells, and to make note of any ringing custo which have survived to our twentieth century, the meth of ringing for services and funerals, the "Passing-bell," t "Gleaming-bell," the "Pancake-bell," and such like. T suggestion is made in connection with a scheme for bringi up to date Dr. Amherst Daniel Tyssen's handbook to t church bells of Sussex (published forty-one years ago).

The Arterial Drainage Commission for Ireland about be appointed will consist of Sir Alexander R. Binni president elect of the Institution of Civil Engineers, En land (chairman), the Right Hon. Thomas Andrew chairman of the Down County Council, Mr. Stephe Brown, chairman of the Kildare County Council, Mr. Jame Dillon and Mr. John H. Ryan, members of the Institutio of Civil Engineers, Ireland. The terms of reference to th Commission will be to inquire into and report upon th methods of initiating, executing and maintaining schemes arterial drainage in Ireland under the statutes now in forc and their practical working; whether any reforms alterations of the existing methods, or consolidation existing statutes, are desirable, and, if so, what legislatio is necessary for carrying them into effect.

For the Vacant city engineership of Newcastle, which i worth about 1,000*l.* a year, there were sixty applicant The number was reduced on Friday last to the followin from whom the city Council will make an appointment their next meeting:—K. T. Campbell, Huddersfield; A. E Collins, Norwich; A. J. Greatorex, West Bromwich C. R. S. Kirkpatrick, Newcastle; James Paton, Plymouth W. J. Steele, Bristol; and F. Wood, Fulham.

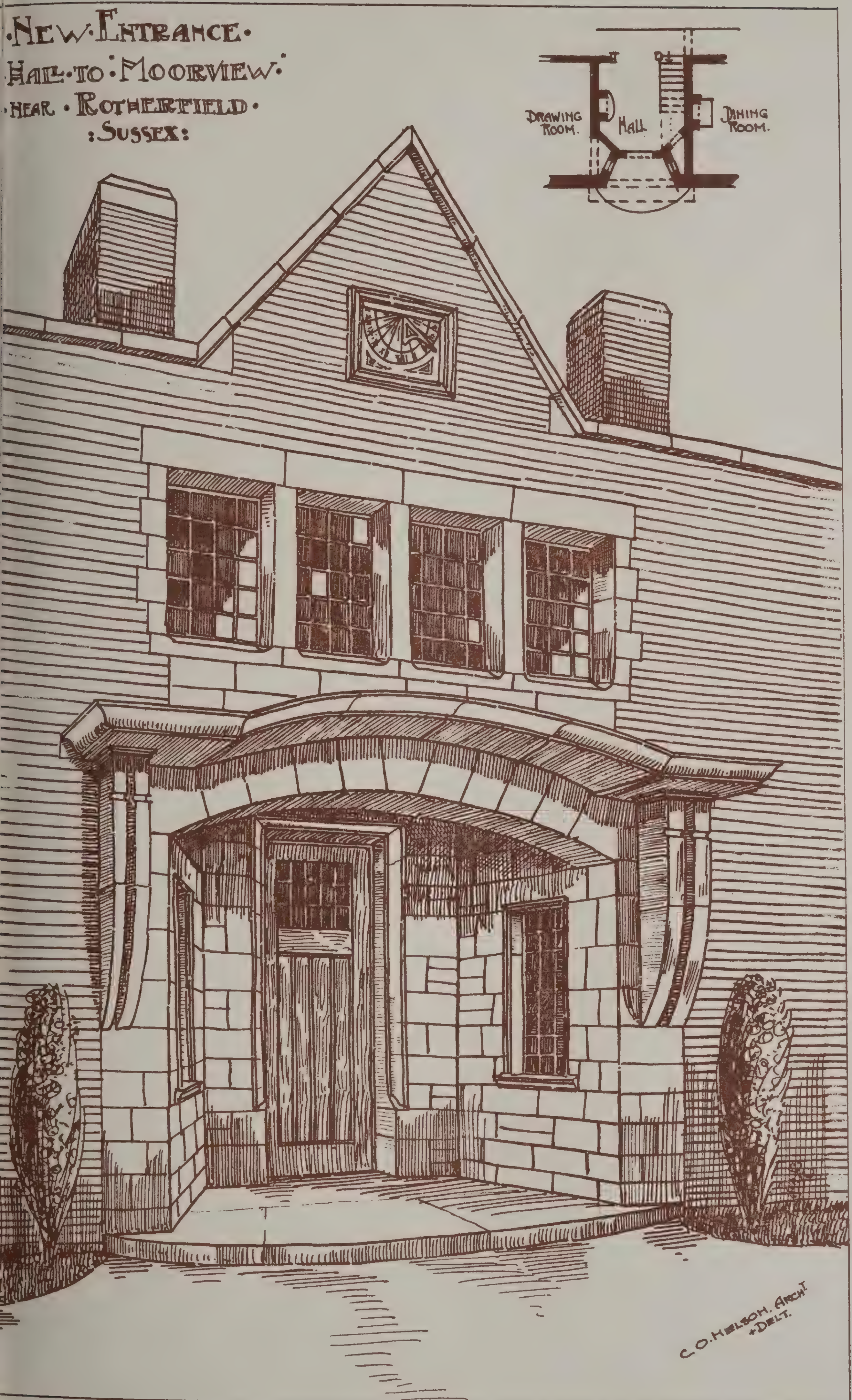
Mr. Sydney A. Smith, the honorary secretary of th junior meetings of the Surveyors' Institution, is about t take a business trip in the United States and Canada During his absence all letters connected with the junio meetings, addressed to Mr. Smith at 22 Chancery Lane, wil receive due attention.

A Floral Emblem was placed on the Scott Memoria Edinburgh, on Tuesday, which was the anniversary of Si Walter Scott's birthday. It took the form of a lyre, composed of immortelles, the colours being white, cardinal an green, with sprays of Scotch thistles and white heather surrounded with a chaplkt of laurel leaves and immortelles The design was by Mr. H. J. Blanc, R.S.A.



—SEA-SIDE COTTAGE AT LLANDUDNO—
FOR B. NELSON, ESQ.
C. O. NELSON. A.R.I.B.A.

·NEW·ENTRANCE· ·HALL·TO·"MOORVIEW"· ·NEAR·ROTHERFIELD· :SUSSEX:



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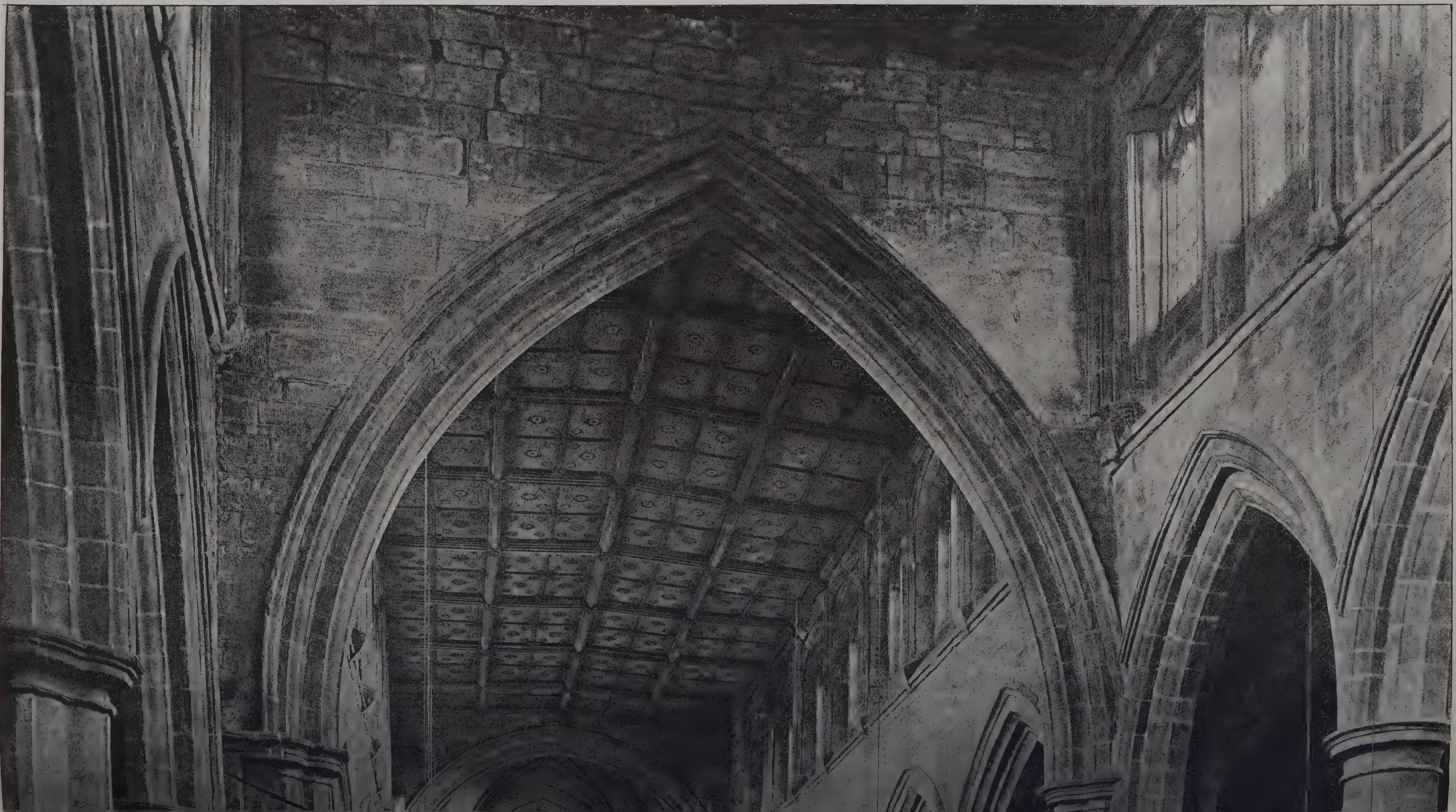

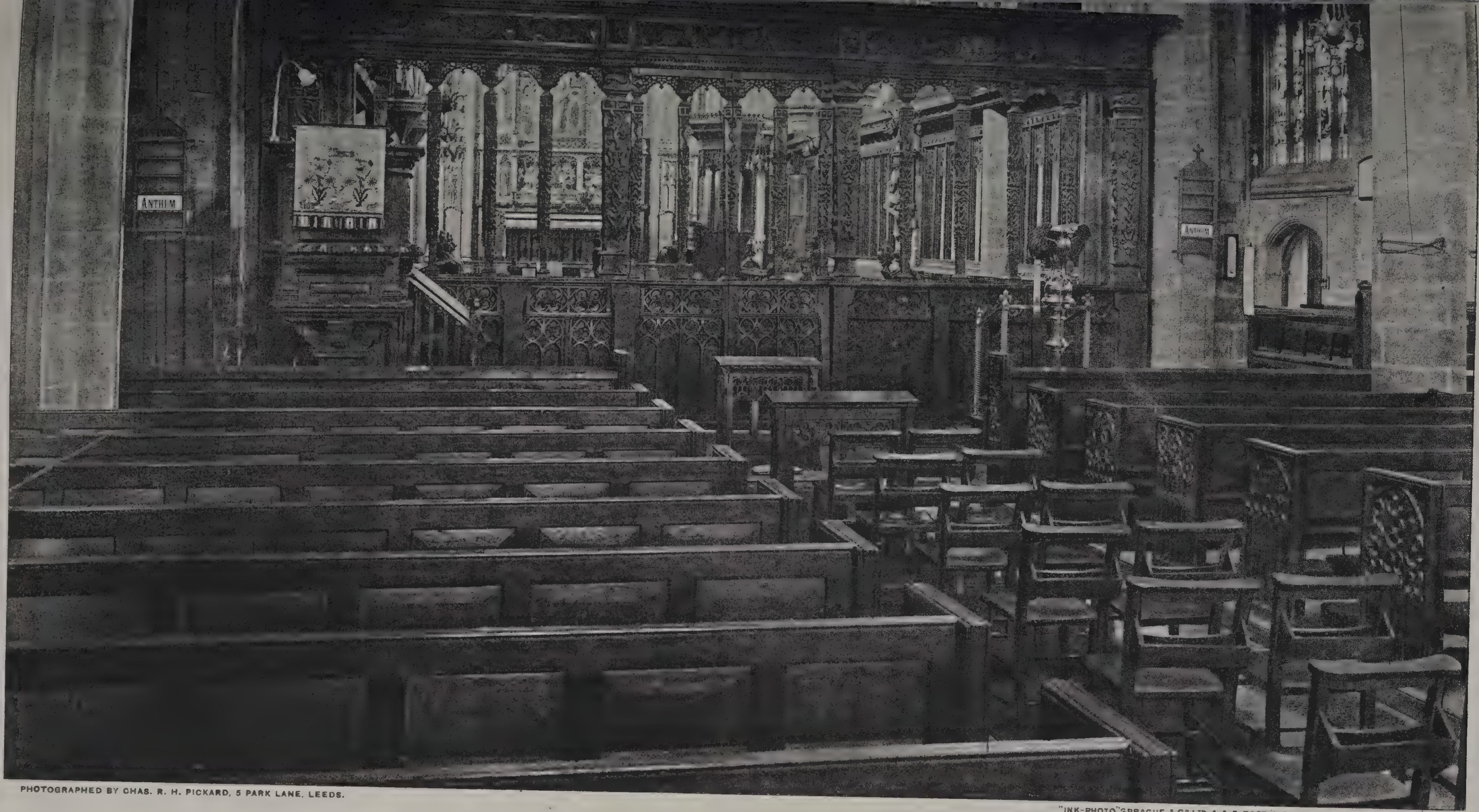

PHOTOGRAPHED BY CHAS. R. H. PICKARD, 5 PARK LANE, LEEDS.

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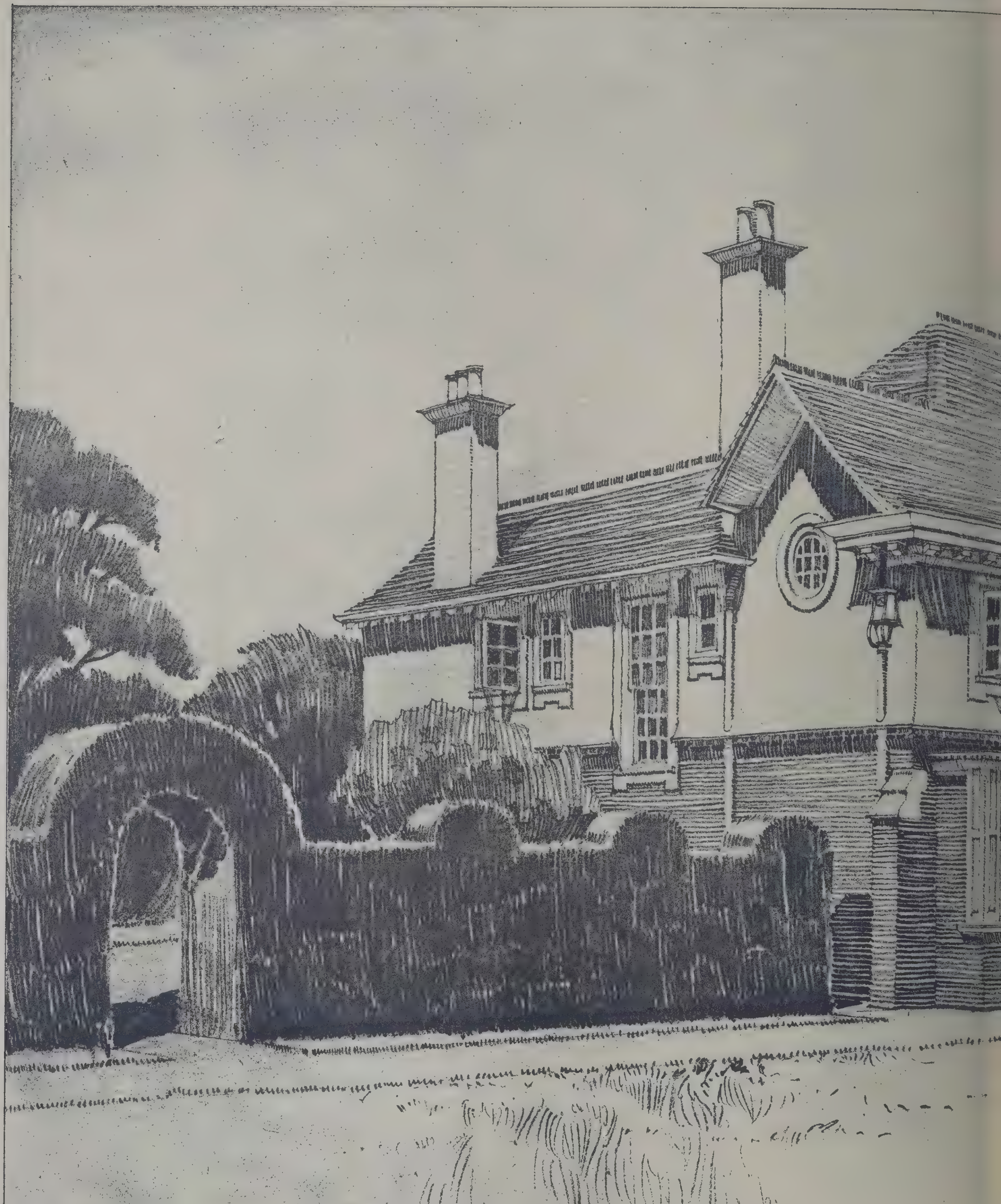
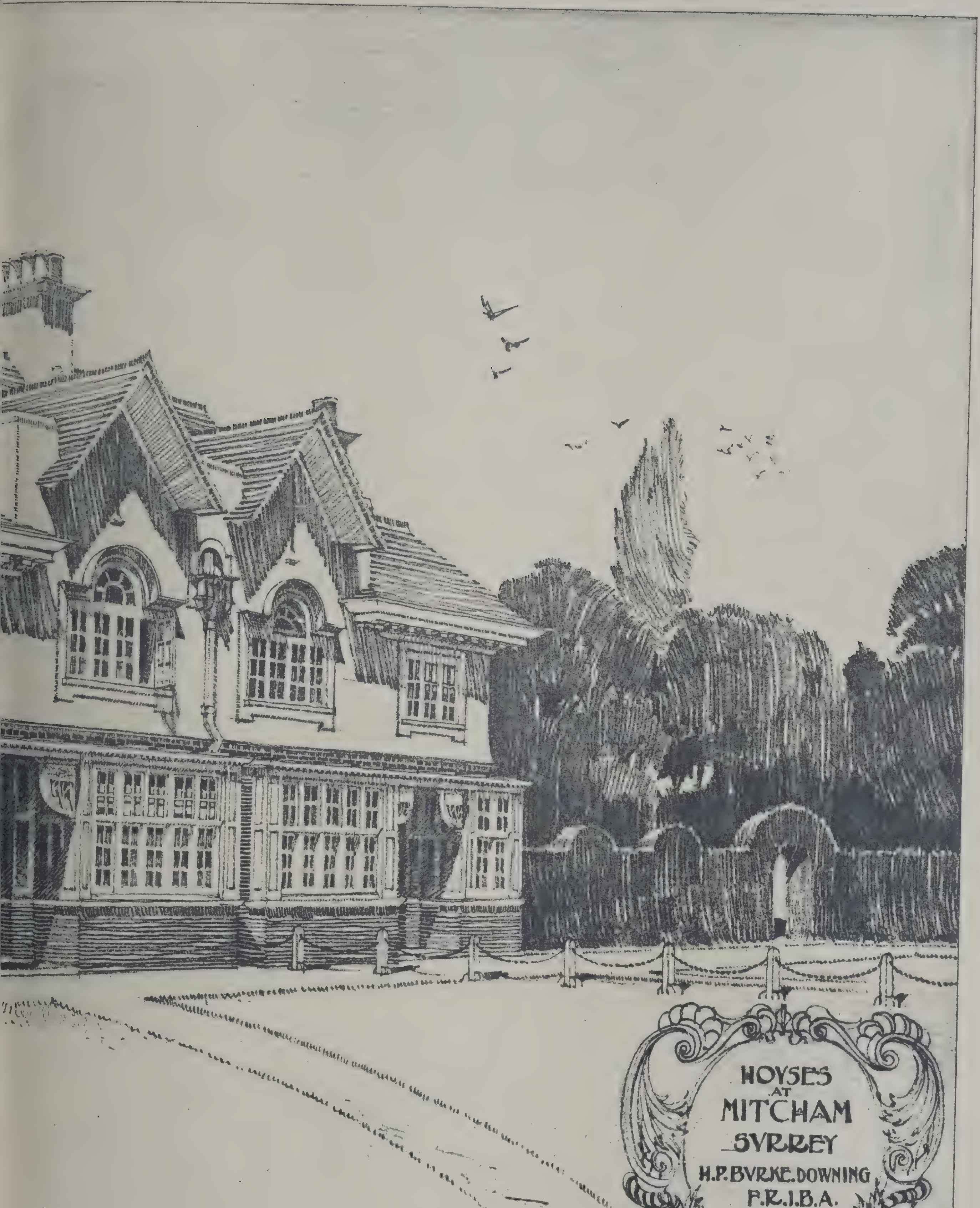
CATHEDRAL SERIES, No. 532.—WAKEFIELD: CHANCEL ARCH AND SCREEN.





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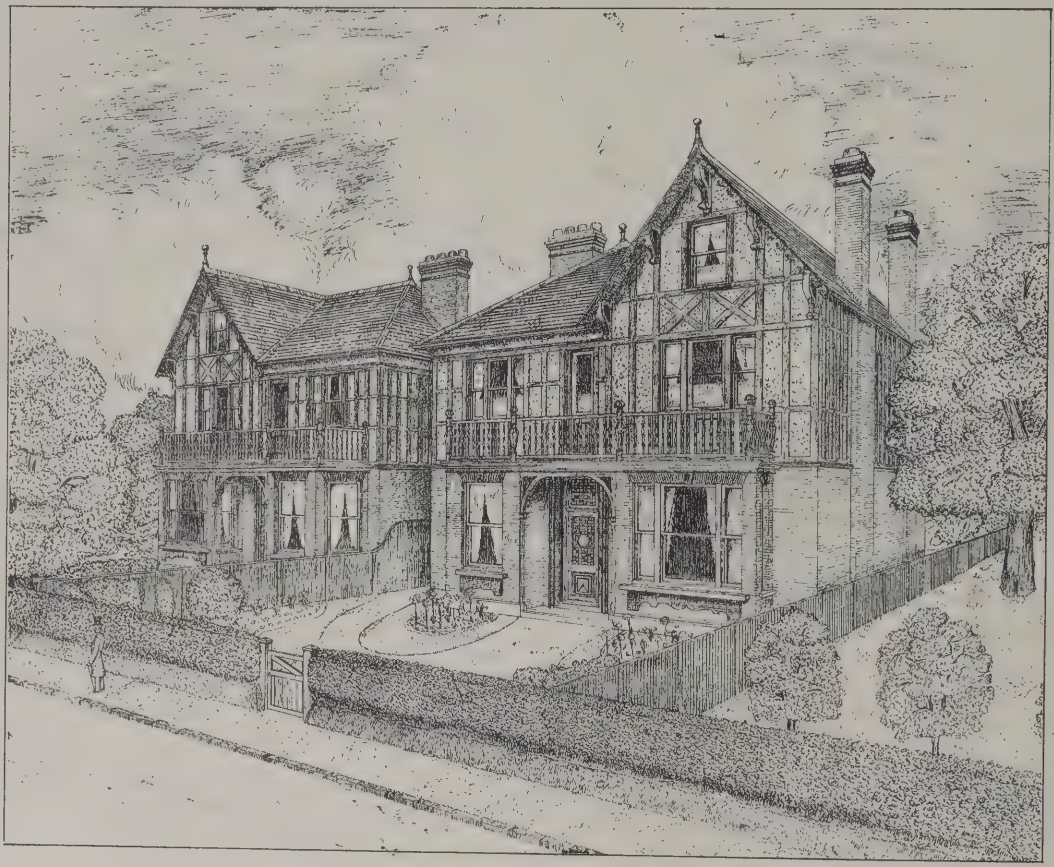
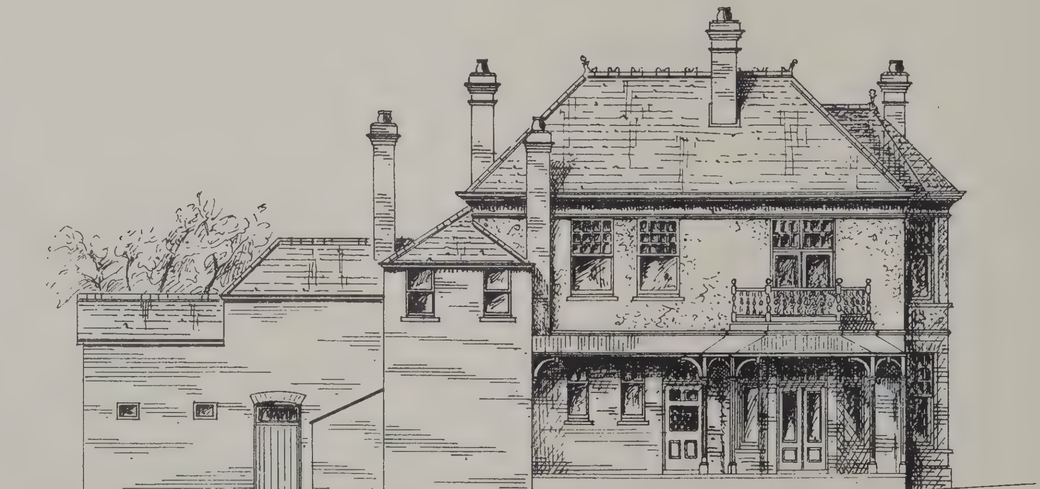
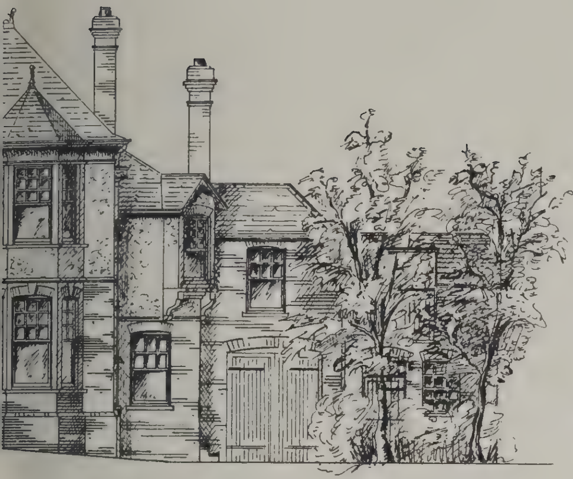


SEMI-DETACHED HOUSES, KENLEY.



Elevation towards Garden

HOUSE AT OXTED.



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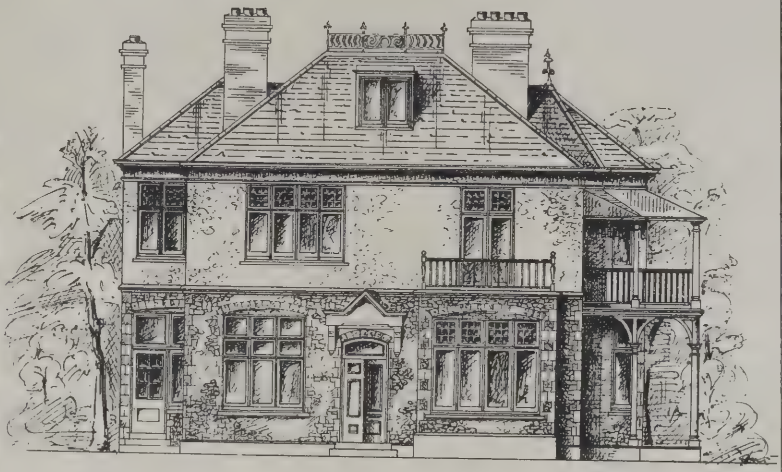
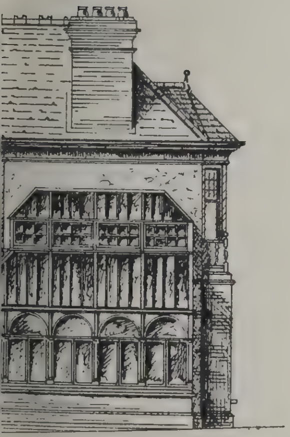


Front Elevation



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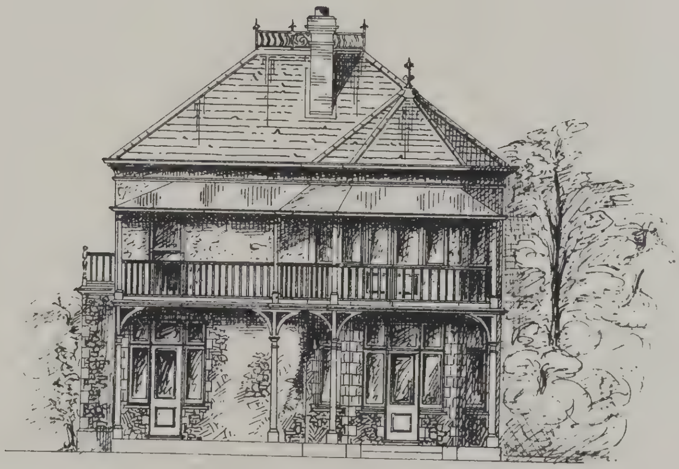


Side Elevation

HOUSES FOR SOUTH AFRICA.

J. J. DOWNES,
Architect.

PHOTO-LITHO. SPRAGUE & Co. LTD. 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

The Architect.

THE WEEK.

HIRTY-TWO years ago Sir William Mather, LL.D., unded the Salford Ironworks Science School, at a ne when there was little or no provision of any kind r systematic teaching and technical training of appren- ces in the subjects on which they were practically igaged in the works. It was then made, and it still mains, a condition of apprenticeship that the science asses should be attended in the evening. Since that ne the example has been widely followed throughout e country, and now both in Manchester and Salford ere are great municipal technical institutions. The rectors have recently come to the conclusion that e Salford Ironworks School has done its work, id that the apprentices could now with greater lvantage avail themselves of the much larger re- urces and complete equipment of the municipal schools. ccordingly the school will not be reopened. During existence nearly 1,200 individual students had tended its classes, and the school can show a long cord of honours acquired in the examinations of the ience and Art Department and the Lancashire and ieshire Institutes. In the interests of the firm the osing of the school may be considered as wise. But is doubtful whether the same advantages can arise students in the municipal classes. Many young ople are scared by the extent of science as explained an ordinary teacher, and they often fail to perceive e connection between great principles and common ork. In schools like Sir William Mather's and rd Armstrong's everything has a definite meaning, d the ordinary work in which the students assist comes exalted, or can be so if there are practical ichers. The connection between class teaching and orkshop practice cannot be made too close, for, as ILL says, "When we engage in a pursuit a clear and ecise conception of what we are pursuing would seem be the first thing we need, instead of the last we are look forward to."

It was generally supposed that the fire which arose the Turin Library and which caused such irretriev- le damage was due to the fusion of the wires for ctric lighting. Great alarm was created by the astrophe, and in consequence the wiring in various raries was examined and altered. In the Guildhall orary it was found that the whole system required irrangement. Dr. Jenkinson, the University librarian, the meeting in Cambridge which was held on esday, declared that the true cause of the Turin fire s "the idiotic conduct of a member of the staff." e Croydon librarian said that on two occasions the ing at his library had fused, once in the daytime and e at night. In the Cambridge University Library tal pipes and continuous wires were used, and no ident had occurred. There is no reason why electric nting should be more risky in libraries than in any er class of buildings; but if prices are cut down by nmittees careless work must be anticipated.

As employers are held to be liable for injuries tained by workmen, it is rather ingenious to suppose t builders should also be made responsible for acci- its which can be remotely traced to their work. In uary last a fire occurred in a Liverpool hotel, and of the barmaids lost her life. Her death caused onvenience to her mother, who was to some extent endent upon her earnings. At first an action was ught against the hotel-keeper. But after a time he s removed from the action because seven years ago employed a firm of builders to lay a new fireplace him. According to the building regulations of Liverpool a fireplace should be laid upon 6 inches of incombustible material, and under no circumstances should it be laid over timber. The fireplace in question had a foundation of not more than 3½ inches, and was laid on timber beams; the fire, it was supposed, had worked through the bed and ignited the timber. It could not be denied that the regulations were not complied with. But counsel for the builders argued they owed no duty to the plaintiff, and that there was therefore no case. The trial took place in the Court of Passage, and Mr. Taylor, K.C., the judge, said there was no evidence of any contract to lay the hearth, and there could be no breach of duty for not laying it properly. His sympathy was with the plaintiff, but there was no reasonable evidence of that which was essential for the action. Judgment was accordingly entered for the defendants, with costs. The case is, no doubt, a hard one. But it shows the consequences of neglect by a careless workman. If, however, the action went against the builders it would afford a precedent for urging many claims against others, in addition to those for which they are already liable.

One of the grievances at the present time is the expense of keeping public roads in proper condition. Materials have risen in price, and there is much discussion at council meetings concerning cheaper substitutes. It is not desirable, however, that prehistoric antiquities should be utilised for the purpose. Vandalism of that kind has become so common in Wales, the following resolution was passed at the annual meeting of the Cambrian Archæological Association:—"That the Cambrian Archæological Association regrets that tumuli and carneddau and other objects of archæological and national interest have been carried away for road metal and other purposes, and desires to draw the attention of county and district councils and of landowners to the injury done by removing historic remains, and it further appeals to the councils and to the press to aid in preventing such mischief." There are many archæologists who would say that it would be preferable to break up gravestones for the purpose than to destroy such memorials of antiquity. The men who erected the memorials or defences were likely to use the materials which were easiest to obtain, and it does not follow that they gave much thought to those qualities which are required in stones that are adapted for the reparation of roads.

The Birmingham Municipal School of Art has again surpassed all the other competitors for the medals and book prizes of the Board of Education. The awards for this year were one gold, nine silver and thirty bronze medals, with fifty-one book prizes, making a total of ninety-one. Leicester stands next with three gold medals, four silver, thirteen bronze medals and fifteen book prizes, a total of thirty-five. It must be admitted that the prizes for Birmingham represent the quality of the work of the Central School, the Jewellers' and Silversmiths' School and eleven branch schools. For fifteen years in succession Birmingham has stood at the head of the prize-list, and so much success is attributed to municipal management. The next session will begin in September. Mr. W. H. Bidlake, M.A. will deliver course on Roman architecture and on English Gothic. The classes of architectural design will be directed by Messrs. H. T. Buckland and E. F. Reynolds. The classes on building construction will be in charge of Mr. F. B. Andrews, assisted by Mr. R. T. Berrill. Mr. A. W. Baylis will again instruct students in taking out builders' quantities. Mr. G. McMichael will continue the evening lectures on building construction in the Moseley Road Board school. From the number of architects the school should continue to hold first place in the architectural section.

ALFRED WATERHOUSE.

A CLIENT who saw the late Mr. Alfred Waterhouse a few years ago for the first time could hardly fail to be impressed with the belief that he was a strong man in whose hands an important commission would be secure. An architect, and especially one who carried out so many and such varied buildings as Mr. Waterhouse, generally shows in his face the effects of office routine as well as of anxiety about the conduct of works which are far apart. Mr. Waterhouse might easily be taken for a man of leisure who was fortunate in being able to spend much of his life in open-air exercises, or found a substitute for them in gymnastics. No one could have anticipated that a man with so sound a constitution was to be doomed to helplessness. Even enemies, if he had any, could not fail to pity him for the long months of inaction which were to follow so energetic a career. He had earned by severe work the right to realise his ambition to enjoy the life of a country gentleman, which would be varied by representing country scenery in oils or water-colours. But there is an insidious power in architectural practice when on a grand scale which the majority of men who have approached the three-score and ten years' limit cannot withstand. Like Scott and Street, Alfred Waterhouse paid the penalty for the arduous exertions which were necessary to retain the position which he had early gained.

We refer to Mr. Waterhouse's remarkable vigour because if ever there was an architect whose works were suggestive of idiosyncrasy it was in his case. He was not one of the purists who placed accuracy or correspondence with the works of a particular period above all other qualities. The first glance at any of his buildings suggests strength, even more than the picturesqueness or skilful grouping of which they are examples. An admirable draughtsman, his designs are not so impressive as the buildings which followed from them. The late Charles Barry must have thought of the peculiarity we have mentioned when, in handing to Mr. Waterhouse the Gold Medal of the Institute, he told him that "whether in municipal, ecclesiastical or domestic work you have fully shown yourself in the best of all senses a master-mason." It was the constructive rather than the delineative artist he considered was honoured on the occasion.

The 19th of last month was the seventy-fifth birthday of Alfred Waterhouse. By birth he was a native of Liverpool. Having resolved to become an architect, he was articled as a pupil to Richard Lane, of Manchester. Among his fellow-pupils were Mr. Thomas Worthington and the late J. H. Pullan, who afterwards conducted explorations in Asia Minor for the Trustees of the British Museum. Later Alfred Waterhouse studied in France and Italy. His knowledge of architecture was accordingly wider than that of most students in those days. He commenced practice in Manchester in 1853. Six years after he demonstrated his qualities by his competition design for the Manchester Assize Courts. Gothic was at the time in favour, but it was generally accepted that the adoption of the style for secular buildings must impose sacrifices on the people who used them. At Manchester neither suitors, lawyers, judges, nor the public, had to suffer any inconvenience. The edifice is often referred to as an admirable example of planning, and it was one of the buildings which helped to inspire the people of Manchester with a desire for improvements. The success of the work naturally drew attention to the designer in other places besides Manchester. In 1866 he was commissioned to design new buildings for Balliol College, Oxford. It was necessary to remove some old work which was without architectural interest. Another important work which required several years for completion was Owens College, Manchester, which has become a university. From it Mr. Waterhouse obtained the degree of LL.D. in recognition of his services. In 1868 he was fortunate in carrying off the great prize for the Manchester Town Hall, which
continues to be one of the finest buildings of its cla
in England. It cost over a million sterling. The tow
which is an important feature, is different in charact
from that seen in the competition drawings. By its
the town hall would entitle Mr. Waterhouse to
considered as a master-mason, for, in spite of t
atmosphere the stonework is almost as perfect as wh
first laid. Other Manchester buildings designed by h
are St. Mary's Hospital, the offices of the Refuge Insu
ance Company and the gaol at Salford. Pembro
College and Girton College, Cambridge, were amo
his early educational buildings.

Mr. Waterhouse felt warranted in removing
London about 1865 in order to have more scope f
practice. That he was recognised as among t
foremost architects of that time is evident by h
selection to be one of the competitors for t
Law Courts in the Strand. He had among h
rivals E. M. Barry, Burges, Scott and Stre
The late Duke of Westminster engaged him to remod
Eaton Hall. The building is now one of the "sh
places" of England, and there is no doubt it serves
enhance the value of the painters' and sculptors' wo
which it contains. One of his early commissions
London was the new University Club. The commissi
for the new Natural History Museum was given to hi
and it was generally supposed to be a kind of solati
for the loss of the Law Courts. It was difficult to me
all the suggestions of the keepers and other officia
for each of them might be considered as having a theo
of his own about the arrangement of the museum.
the time there was a faith in Owen's conclusions abo
the essential similarity in the structure of the vario
genera of organic nature, and the great hall w
intended to afford space for the exemplification of th
doctrine. Other theories afterwards got the upp
hand, and the building may be considered as a co
promise between the architect's and the official ideas.
required courage to adopt a material like terra-cotta f
the building. It was found to be an admirable a
economic substitute for stone, and it allowed of t
introduction of ornament which was derived from natu
objects. The building had therefore an appropriatene
which was beyond most precedents. In the neighbou
hood of the museum is the great building for the Ci
and Guilds of London Institute, where the views
specialists had also to be met by the architect.

In 1878 Mr. Waterhouse was elected an Associa
of the Royal Academy, and in the same year he w
presented with the Royal Gold Medal of the Institu
There was an international exhibition in Paris, whe
he was represented by drawings of the Clock Tow
of the Town Hall, Manchester, the Natural Histo
Museum, and the Private Chapel at Eaton Hall. As
had obtained a Grand Prize in 1867, all he could recei
was a *rappel*. He was able to add in subsequent yea
numerous works which were also of importance.
architect to the Prudential Insurance Company
designed offices for a great many towns, as well as t
immense building in Holborn. They all suggest th
relationship to the head office. The Yorkshire Colle
in Leeds, St. Paul's School, Hammersmith; Liverp
University College, the Liverpool Infirmary, the Nort
Western Hotel, the Turner Memorial House, the Pe
buildings also in Liverpool; the General Hospit
Nottingham; the Alexandra Hospital, Rhyl; the Jenn
Institute, Chelsea; University College Hospital, t
National Liberal Club, the Surveyors' Institution, t
Hôtel Métropole, Brighton; the National Provinc
Bank in Piccadilly and also the Branch in Manchest
Brown's Bank, Leeds; Foster's Bank, Cambridg
the Town Hall, Hove; the Weigh House Chapel,
Elizabeth's Church, Redditch, and residences at He
thorpe Hall and Hutton Hall are among his work
There were, indeed, very few classes of buildings
which he was not represented.

We have already referred to his courage in emplo
ing terra-cotta on a large scale and under novel circu

tances in the Natural History Museum. The style ight be considered as an adaptation of Norman, and ne in which massiveness was required. The employ- ent of the material in such a building suggested its rength, and gave an impetus to the manufacture of erra-cotta, which is now one of the staple industries of e country. But that was only one example of the forts which Mr. Waterhouse made to encourage vention. He was rigorous in dealing with contractors d sub-contractors, and he was not to be allured by erything that seemed novel. But when an invention a process seemed to him to be worthy of support, the iginator might safely calculate that Mr. Waterhouse ould give it a trial. A great many successful firms e indebted to him, for his use of their products was a arantee of value which other architects willingly cognised.

Mr. Waterhouse, as we have said, was not a purist the usual sense of that word, and it would be difficult trace the originals of his details. But he was not glectful of the past as exemplified in Classic and ediæval architecture. He expressed his views by ying pithily:—"Though archæology is not architecture, d though undue and excessive reverence for the rks of the past may be even detrimental to e attitude of mind which the practising origi- ting architect ought to assume, there is no question how much art for the last 2,000 years has ed to the Greeks, and how much more it might owe th advantage if the essential refinement of this the ghest phase of art were more studied than it is at esent."

There is a sufficient correspondence between the aracteristics of his buildings to make them recog- able. He had the good sense to realise that he uld be more effective if he put some limitations on powers. There were temptations enough for a man his calibre to adopt several styles. But it may be d with truth that throughout his practice he was a thicist. He treated the style with great freedom, t his buildings are always suggestive of the aspiring dency of the Mediævalists. The style was well pted to irregular sites, for which it might almost be posed he had a *penchant*, so ingenious was he in over- ning difficulties, and it also enabled him to treat fs with a picturesqueness which dare not be at- pted with the freest Classic.

If he restricted himself in devising forms, he was desirous to have a less extensive theory of the ies which were to be expected from an architect in his ryday practice. The arbitration clause, for instance, ich so many architects assume to be the basis of ir dignity, was unsatisfactory to him. He did not eve that a man could be fairly or safely judge and ty in the same case, and if he had his will the clause ld never be inserted in a contract deed. He at least not need that sort of protection. His own method well deserving of imitation. His working drawings models of their class, and if brought into Court ld be comprehensible by the commonest jury.

If Mr. Waterhouse was successful he deserved to No man could labour with more industry to carry any commission entrusted to him. His buildings sustain comparison with any modern works in the e style. He was no doubt a proud man, for he w his value. But he was never vain. His works testify to his ability not only in design, but in con- ction. He acted a manly part throughout his life, ing an example which even the humblest architect imitate in devotion to duty and uprightness.

THE DRESDEN GALLERY.

the course of September the people of Dresden will celebrate the fiftieth anniversary of the opening he Museum buildings which Gottfried Semper gned. As a group it has the characteristics of architect's style. He had been Professor of Architecture in the Academy from 1834, and there are several buildings in the city by him in Gothic, Renaissance and, we may add, in Semperean styles. He obtained the commission for the Museum in 1846, and prepared the plans. In 1848 Semper was supposed to be implicated in revolutionary attempts and he fled to England, where afterwards he became one of the professors of the Department of Practical Art. The Gallery of Dresden forms part of the Zwinger, where not only paintings but casts, minerals, specimens illustrative of natural history, and important historical objects are collected. Semper adapted to some extent the arrangement of the Pinacotheca in Munich. The Italian school occupies the galleries on one side of the landing, the *Sistine Madonna* having a room to itself; and on the other side are examples of the Spanish, Neapolitan, Dutch, Flemish and German schools, Holbein monopolising the greater part of the wall space in one of the rooms.

Before Semper designed the present gallery one existed from 1722. The collections were mainly formed by Augustus II. and Augustus III. It was a remarkable innovation, and especially in such a country as Germany was in those days, and few rulers cared to imitate the Saxon Electors. It may now seem to be incredible that at the beginning of the nineteenth century the gallery at Dresden was the only rival in Europe to the Louvre. There was no National Gallery in London; admission to Hampton Court was restricted. The Vatican Museum in Rome, the Naples Museum, the Academy at Venice, the Museum in Madrid and the galleries of Munich and Berlin did not exist. The two Electors were able to obtain their treasures by a moderate outlay of money, which their subjects grudged. For about 18,000*l.* the pictures belonging to the Duke of Modena were purchased, and among them were five by Correggio. Raphael's *Madonna di San Sisto*, which is probably the most popular picture in the world, was secured for about 8,000*l.* In the middle of the last century the galleries contained as many pictures as the Louvre and Madrid gallery combined. Although they received much admiration, prior to 1855 they could only be seen with difficulty. The building in which they were placed was never intended for the exhibition of paintings. The works were also hung without any respect to chronology or to character. Excellent paintings were mixed with those of a different quality. It may also be added that in the Dresden gallery the protection of oil-paintings by means of glass was first employed. At present a great many of the defects have been remedied, and the 2,400 pictures which can be seen will repay a journey to Dresden. It is noteworthy that the collection produced an extraordinary effect on Napoleon. His vandalism was subdued, for not one of the Dresden pictures was sent to the Louvre. Frederick the Great also ordered his artillerymen when bombarding the city to spare the building in which they were housed, in order that not one of them might be injured.

We have a description of some of the pictures which are now in the gallery when they belonged to the Duke of Modena. The younger Richardson had seen most of the private galleries in Europe, and he was fortunate in being allowed to visit the gallery of the Grand Duke. He describes Correggio's *La Notte* (Shepherds adoring Christ) as the first picture on the walls for the "clair-obscure." He goes on to say:—"The greatest masters in this part of painting are Correggio, Rubens and Rembrandt. The first and last of these generally kept their lights more contracted, or (as one may say) their principal lights are more principal; whereas Rubens is more diffused, so that the subordinate lights approach nearer to a competition with the principal one and spread themselves even to the extremities of the picture. In this of Correggio the Child and Virgin is one amazing spot of light, but the shepherds partake of but little of it, comparatively; the sky, indeed, is pretty clear, but several tones lower than the grand light. The same may be said of the *Magdalen*, *Io*, &c." Despite his admiration, he pointed out the incorrectness of CORREGGIO'S detail and made no attempt to excuse the carelessness. According to the critic, the picture was painted for an altar in the church of San Prospero in Regio, and the contract for it was entered into in 1522. The sum to be received for the altarpiece was about equal to 6*l.* 16*s.* English money. Another picture of CORREGGIO'S is the small *Magdalen Reading.* Latterly Signor MORELLI has argued that it is a Flemish work. RICHARDSON described the dark blue mantle as being quite black; "but the flesh," he says, "is mighty bright, and which (the ground being also dark) is therefore a perfect spot; but that spot is most excessively beautiful." The picture at that time was set in a silver frame adorned with jewels. Apparently RICHARDSON had not seen the *Sistine Madonna* when he was in Italy.

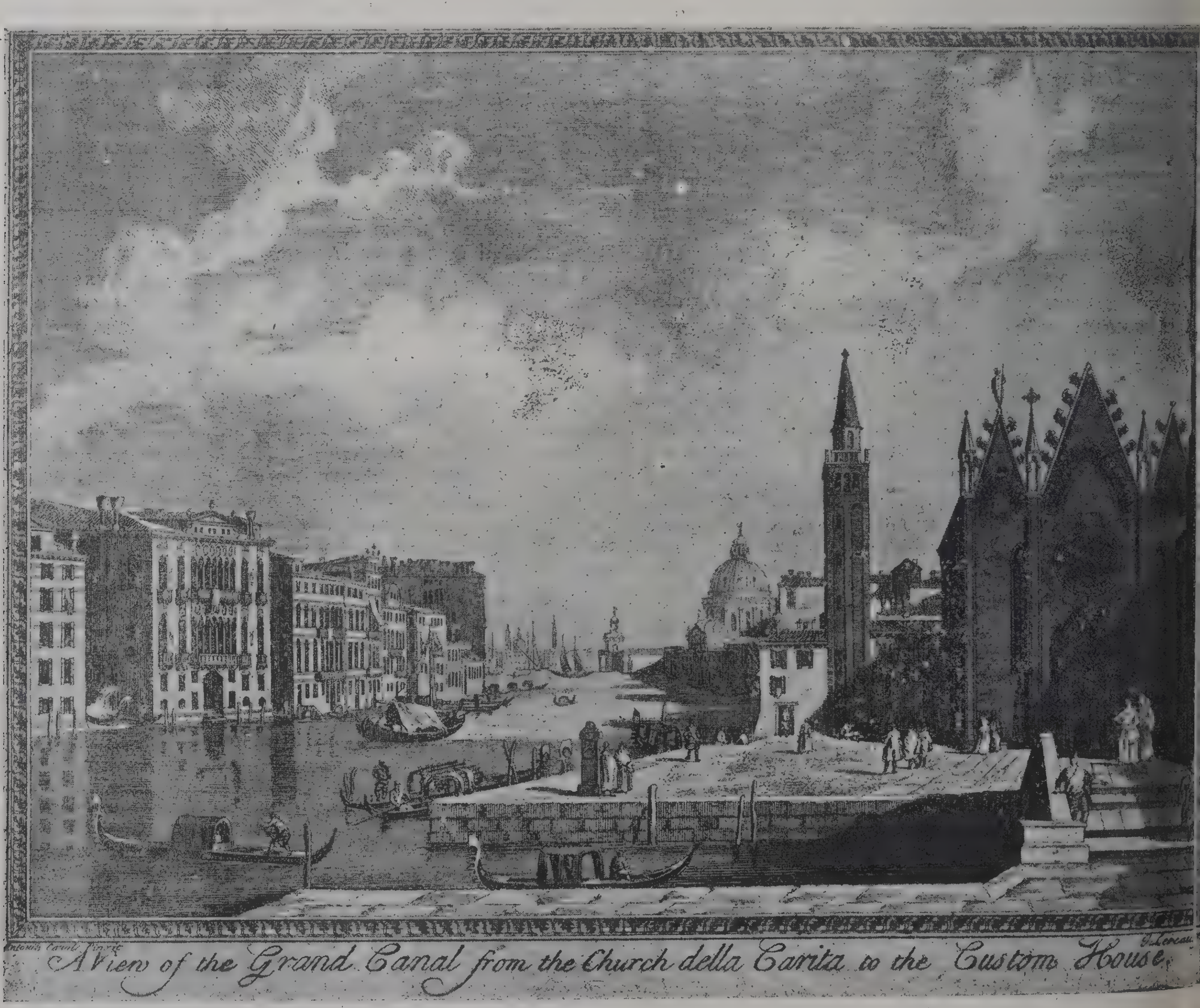
At the time the collection was commenced there was no principle adopted for acquiring works. As in other galleries, chance had much influence on the contents. But there can be no question about the importance of the majority of the Italian examples. Doubts have been raised about the genuineness of many, but it is almost impossible to bring together a large number of Italian easel pictures which will be generally accepted as veritable works. It is not satisfactory to find it suggested that the *Meyer Madonna,* which rivalled RAPHAEL'S in interest with Germans, is only a copy. The great landscapes by RUYSDAEL, who was considered a poet by GOETHE, are, however, accepted without misgiving. At one time doubts about pictures in Royal galleries were confined to a few, but of late years they are expressed aloud and with conviction. The officials entrusted with gathering pictures were generally inspired by a confidence which was based on old stories which were supposed to be traditions of painting-rooms. Those men contrived, however, to afford pleasure to crowds b their acquisitions, and there is always regret when belief in a favourite painting or statue is overturned Truth, however, must have its rights, although venerabl and pleasing delusions are dispelled.

CANALETTO'S VIEWS OF VENICE.—V.

IF CANALETTO had to produce in our time that par of the canal which appears in the illustration, h would find a similar obstruction to the Rialto befor him. For a bridge crosses the canal, which enables visitor to reach the great piazza, St. Mark's and th doge's palace by a roundabout route through very narro ways.

The church which appears so prominent in the vie is a somewhat fantastical example of Italian Gothic. I never was one of the principal churches of Venice, and in fact, it should be considered as a confraternity chapel But on that account it was supported by severa important families in Venice, and it was selected b some doges as their place of burial. Many othe grandees followed their example.

Adjoining the building was the Scuolà della Carita It was the hall of the confraternity, where they hel meetings and discussed subjects relating to the busines of the Society. It was designed by PALLADIO, and h intended to make it express his idea of what an ancien Roman house used to be. That was in 1561. Pompei had not been then revealed, and PALLADIO'S buildin was little more than a speculative experiment. It afterwards suffered through a great fire, and was altere from time to time. It must have been, however, a nobl structure for a confraternity. A story is told that on of the brethren—CHERUBINO OTTALE—undertook to gil the ceiling of the grand hall. When he had the wor completed he wished to have an inscription set u



A View of the Grand Canal from the Church della Carita to the Custom House.

recalling what he had done. But the desired permission would not be granted to him. To gain his end in another way he ordered his artists to introduce a figure of an angel with eight wings in each of the panels. The rebus, like the bolt-in-tun of St. Bartholomew's, served its purpose for a while at least. The Scuola could not be considered Venetian unless it was adorned by paintings. It contained works by John Bellini, Titian, and other members of the Venetian school. At the beginning of the nineteenth century, when Venice suffered through the malignity of the new Republicans of France, there was fear that most of the important treasures of the city would be sent away. Cicognari, the historian of Italian art, was in those dark days enabled to obtain other lovers of art and of Venice to associate themselves with him in the founding of an Academy of Fine Arts. He was successful in having the Scuola della Carità made over to him, and it is to-day the Accademia delle Belle Arti, which is known to artists throughout the world. Anyone who wishes to study the history of the Venetian school must spend many days in its salas. Further on is the noble church of Santa Maria della Salute. It is supposed by some critics to be an example of the decadence of architecture. But for its position as a landmark to those entering or leaving the city it is appropriate, and the best proof of this is the number of artists who have represented it. The Customs House adjoining is also a remarkable building. On the opposite side of the canal can be seen the Contarini and other palaces.

WILLIAM BOUGUEREAU.

On Saturday night M. Bouguereau—who was considered by many of his countrymen, as well as by Americans and other foreigners, to be the most successful of modern French painters—died in Rochelle, of which he was a native. He would have attained his eightieth year if he lived until November.

According to an article in the *Figaro*, by M. André Beaunier, he entered the Ecole des Beaux-Arts in 1846. Since that time he has not desisted from his work as an upright and straightforward artist. Consequently his career extends over a period of sixty years, and every one of them fruitful. It has been triumphant for the most part.

William Bouguereau was brought up by an uncle, who was the priest of the church of St. Louis, in Rochefort, and pursued his studies in the ecclesiastical college of Pons. Ought we to attribute to this pious childhood the inclination afterwards manifested by the painter towards religious pictures? One would hardly dare to say so. The Christian art of Bouguereau is so directly related to that of the Italian Renaissance, and moreover it is so intimately mixed with the pagan work of the great friend of nymphs and cupids that it is more reasonable to trace the predominating influence to the Villa Medicis.

Bouguereau secured the Prix de Rome in 1850. He had for some time worked with a merchant of Bordeaux and then in the atelier of Picot. The year 1855 saw two young painters set out for Rome; Baudry accompanied Bouguereau, for the jury were not able to choose between them, and left that task to posterity. Bouguereau had come to Paris, thanks to winning a departmental scholarship.

His two works from Rome even then revealed the duality of his talent, an *Idyl* and a *Triumph of the Martyrs*, which may be seen in the Luxembourg Museum. Observe the titles of his most celebrated pictures:—*The Return of Tobias, Spring, Summer, Friendship, The Dance, Bacchante on a Panther, Apollo and the Muses in Olympia, Nymphs and Satyrs, Fauns and Bacchantes, Psyche and Cupid, Arion on a Seahorse, Riches and Love, Night, Spring, Peace, The Virgin of Consolation, The Infant Jesus and John the Baptist, The Adoration of the Shepherds, The Adoration of the Magi, Homer and His Guide* and *The Birth of Venus*, not to mention countless "bathers," "amorini" and characters taken from fables and various allegories. As may be observed, the profane and the sacred contested with M. Bouguereau, or, rather, he divides himself equally, and does not sacrifice the one or the other; or, better still, he does not have to divide himself; but he welcomed equally these two forms of beauty, which his art impartially produced. His angels and his amorini have more analogy between them than has paganism and Christianity.

On the other hand, he neglected the reality of the present. Not more than one of his pictures sprung out of modern inspiration, viz. *Napoleon visiting the Sufferers from Floods at Tarascon.* Since that time Bouguereau has not renewed the experiment, which, moreover, was out of harmony with his æsthetic principles. He had evolved for himself a theory of beauty with which Imperial uniforms were as much out of keeping as black frock coats or sweeping skirts.

He has often been reproached for the coldness of his compositions, and it is regretted that he failed to impart more life to his work. These objections did not worry him, and if he perceived that the present generation speak foolishly on this same subject of life one can hardly praise him enough. Moreover, it is noteworthy that this artist never set store by criticism, and this was directed more and more emphatically as the fashion changed. He set up an ideal, and this he would not submit to the fickleness of public taste. He had his manner which he had chosen and which he considered good, and it was of little moment to him that successive generations, as one might say, ascended and fell around him. There was in this disdain of novelty and fashions a pride which always characterises the true artist.

It was about 1877—the year of *Youth and Love*—that Bouguereau was most in vogue. The certainty of his design, the remarkable skill of his composition, the harmony of his colours, the freshness, the elegant and charming grace of the youthful flesh and courtly attitudes, won him a universal renown, which passed beyond the ocean, conquered America, and which brought him both honour and fortune. M. Bouguereau was member of the Académie des Beaux-Arts, grand officer of the Legion of Honour, and ex-president of the Société des Artistes Français.

French painting during his lifetime was realistic, impressionist and neo-impressionist; it was divided and broken up into schools and cliques. In fact, it renewed itself twenty times, whilst he remained faithful to his nymphs and saints. He continued to give them great limpid eyes, loving smiles, and rosy or peach-like complexions; he continued to drape on their shoulders stuffs in noble and harmonious folds, and his allegorical maidens did not grow old.

Contemporary art, like contemporary literature and contemporary thought, is in such a state of anarchy that it would be no easy task to define the tendencies of the new æstheticism. And then to what purpose? The future will simplify the problem. Nevertheless, the canon of beauty to which M. Bouguereau had sworn allegiance is no longer in favour. Who is right? Everybody, each one in his own way. And no one can be infallibly correct.

But it is quite likely that the future will set more value on this artist, more value than is the case to-day, and on the eternal character which he has wished to impart to his creations. Bouguereau was the diametrical opposite of an impressionist. And it is not certain but that posterity will regard impressionism as a huge mistake and as opposed to art. If art is essentially synthetic, and if it has for mission the elimination of the accidental in favour of the innate meaning, stripped of its chance setting, if this is art, the work of a William Bouguereau is assuredly more enduring than that of others who, in order to have noted the fleeting moments, will be perhaps transient themselves.

Is art what we have described? Until such time arrives when æstheticians will have come to a common understanding let us abjure from dogmatising. It is permissible for us to like or dislike a painter. But care must be taken not to decide too quickly, lest when we do not like him it should not be through his fault. One can ask for nothing more from an artist than that he should be exactly what he is. And Bouguereau deserves such praise. It is said that he repeated himself, or, in other words, that a picture by him was immediately recognisable. That is equivalent to saying that he was energetically himself.

He died peacefully, like a good workman who has done his task. He preserved even to the last moment his clearness of intellect. He knew he was dying. For some days the heart-disease from which he suffered left no hope; this he knew. His family was gathered round him. In the evening before his death a lawyer was summoned and Bouguereau dictated his will. Then he bade good-bye to his household, to his servants, to life, and died without complaint, having fulfilled his destiny.

ARCHÆOLOGY OF SOUTH AFRICA.*

THE archæology of South Africa is now attracting considerable local interest, and we may confidently expect that new discoveries will soon enable us to gain some insight into the dense obscurity of the past. It cannot be too strongly insisted upon that the methods of the archæologist should be primarily those of the geologist. Accurate mapping of deposits or localisation of finds is absolutely necessary. The workmanship of an implement is of little evidential value, the material of which it is made may be refractory, the skill of the maker may be imperfect, or he may be satisfied with producing an implement just sufficient for his immediate need; and there is always a chance that any implement may be simply a reject. The early generalisation of implements in England into two groups, Palæolithic and Neolithic, expressed a fact of prime importance, but now the classification has extended. It is obvious that the shapely palæoliths of the older gravels could not have been the first attempts at implement making by our forefathers, and the presumed hiatus between the two epochs has been bridged over by evidence from sites on the European mainland. Our knowledge is increasing apace, and an orderly sequence is emerging; but there are many interesting variations, and even apparent setbacks, in the evolution of industrial or artistic skill. In a word, sequence and technique must not be confounded, and our first business should be to establish the former on a firm basis; but, as I have just remarked, this can be accomplished only by adhering rigidly to the stratigraphical methods of the geologist. It would probably be to the interest of South African archæology if the terms "eolithic," "palæolithic" and "neolithic" were dropped, at all events for the present, and it might prove advantageous if provisional terms were employed, which could later on be either ratified or abandoned, as the consensus of local archæological opinion should decide.

In certain lands of the Old World north of the Equator there was a progressive evolution from the Stone Age, through a copper and bronze age to that of iron; but the stoneworkers of South Africa appear to have been introduced to iron smelting without having passed through the earlier metal phases, since the occurrence of copper implements is too limited to warrant the belief that it represents a definite phase of culture. The similarity of the processes employed in working iron by the different tribes of Africa south of the Equator indicates that the culture was introduced from without, a conclusion which is supported by the universal use of the double bellows—a similar instrument is in use in India and in the East Indian Archipelago. Some ethnologists hold that Africa owes to India its iron industry and other elements of culture, as well as the introduction of the ox, pig and fowl. At all events, we shall probably not be far wrong if we assign a fair degree of antiquity to the knowledge of iron in tropical and southern Africa.

The characteristic metal of South Africa is gold, and its abundance has had a profound effect on the country, although, strange to say, it was not employed by any of the native races on their own initiative. We cannot tell when it was first discovered or by whom, but the hundreds of ruins scattered over a large extent of country, and the very extensive ancient workings testify to the importance and the long continuance of this industry; for there can be no doubt that the builders of these wonderful remains came to this country mainly for the sake of its goldfields, though there must also have been an important trade in ivory, and incidentally in other local produce. Positive demonstration is as yet lacking concerning the nationality of the first goldworkers. This much is certain: they must have come to South Africa originally for some other product, since the aborigines did not work the metal, and it is most probable their quest was for ivory, and it was these hunters and traders who discovered the surface gold. Further, the discoverers must have come from a country where quarrying and metal-smelting were practised, and this implies the organisation of labour, for in early times, as history abundantly proves, mining was always undertaken by means of forced labour. The gold-workers, who probably came from Southern Arabia, belonged to a much higher social order than any of the peoples with whom they came in contact, and with their discipline in war and their industrial training they were able to subdue the Bantu inhabitants over immense tracts between the Zambesi and the Limpopo, to reduce them to slavery, to organise the working of the gold mines, and to establish a chain of forts and a system of communication with the coast. This occupation of the country by foreigners was purely for purposes of exploitation, and when, for reasons at present unknown to us, their hold weakened on the land, the whole enterprise fell to pieces and the foreigners departed; they left indelible marks of their former presence on the face of the country, but in native industries and customs there is virtually no trace remaining of the rule of the more civilised Semitic overlord. The natives seem, as it were, to have awakened from a nightmare and straightway to have forgotten the hideous dream. Possibly this history may have been repeated more than once.

It is greatly to be deplored that in the past irresponsible prospectors have been permitted to rifle the ancient ruins for gold, with the result that not only have very numerous specimens of archæological interest been cast into the melting-pot, but at the same time collateral evidence has been destroyed, and thus valuable data lost to science. Even now the situation is not without its dangers, for the recently awakened interest in the ruins, and appreciation of their historical value, may lead to unconsidered zeal in excavation. After all, there is no especial hurry; what is perishable has long ago decayed, and so long as the ruins are sealed up by the rubbish that preserves them, no great harm can accrue, but a few hours of careless excavation may destroy more archæological evidence than centuries of neglect. Therefore it would be advisable for those in authority to consider carefully whether it is wise to lay bare new sites, unless proper examination and preservation can be insured. The number of the ruins in Rhodesia is so great, and the area within which they occur so enormous, that it would be a very large undertaking for the Government systematically to investigate and permanently to conserve them all. Perhaps it would be possible to entrust some of this work to properly constituted local authorities, assisting them by grants and special facilities, but care would have to be taken to insure the thorough carrying out of the work. Records of work done should be published and the specimens preserved in authorised museums only. It is desirable also that every ruin should be scheduled under an Ancient Monuments Protection Act, and that an inspector or curator of ancient monuments should be appointed, who would be responsible for the excavation and preservation of all the monuments. To a less extent these remarks apply also to other parts of South Africa. All relics of the past, such, for example, as the pictographs in the rock-shelters of the Bushmen, should be jealously preserved and guarded from intentional or unwitting injury.

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* From the address of Dr. A. C. Haddon as president of the Anthropological Section of the British Association at the meeting in Cape Town.

IRRIGATION.*

THE earliest and simplest form of irrigation is effected by raising water from a lake, river or well and pouring it over the land. The water may be raised by any mechanical power, from the brawny arms of the peasant to the newest pattern of pump. The earliest Egyptian sculptures show water being raised by a bucket attached to one end of a long pole, turning on an axis with a heavy counterpoise at the other end. In Egypt this is termed a *shadoof*, and to this day, all along the Nile banks, from morning till night brown-skinned peasants may be seen watering their fields in precisely this way. Tier above tier they ply their work so as to raise water 15 or 16 feet on to their land. By this simple contrivance it is not possible to keep more than about 4 acres watered by one *shadoof*, so you may imagine what an army are required to irrigate a large surface. Another method, largely used by the natives of Northern India, is the shallow bucket suspended between two strings, held by men who thus bale up the water. A step higher is the water-wheel, with buckets or pots on an endless chain around it, worked by one or a pair of bullocks. This is a very ordinary method of raising water throughout the East, where the water-wheel is of the rudest wooden construction and the pots are of rough earthenware. Yet another method of water-raising is very common in India from wells where the spring level may be as deep as 100 feet or more. A large leathern bag is let down the well by a rope passing over a pulley and raised by a pair of bullocks, which haul the bag up as they run down a slope the depth of the well. An industrious farmer with a good well and three pairs of good bullocks can keep as much as 12 acres irrigated in Northern India, although the average is much less there. The average cost of a masonry well in India varies from 20*l.* to 40*l.*, according to the depth required. But it is obvious that in many places the geological features of the country are such that well-sinking is impracticable. The most favourable conditions are found in the broad alluvial plains of a deltaic river, the subsoil of which may be counted on as containing a constant supply of water.

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* From the address to the Engineering Section of the British Association, by Sir C. Scott Moncrieff.

Pumps and Windmills.

All these are the primitive water-raising contrivances of the East. Egypt has of late been more in touch with Western civilisation, and since its cotton and sugar-cane crops yield from 6*l.* to 8*l.*, or even 10*l.* per acre, the well-to-do farmer can easily afford a centrifugal pump worked by steam-power. Of these there are now many hundreds, fixed or portable, working on the Nile banks in Egypt. Where wind can be counted on the windmill is a very useful and cheap means of raising water. But everything depends on the force and the reliability of the wind. In the dry Western States of America wind-power is largely used for pumping. It is found that this power is of little use if its velocity is not at least 6 miles per hour. (The mean force of the wind throughout the whole United States is 8 miles per hour.) Every windmill, moreover, should discharge its water into a tank. It is evident that irrigation cannot go on day and night without cessation, and it may be that the mill is pumping its best just when irrigation is least wanted. The water should, therefore, be stored till required. In America it is found that pumping by wind-power is about two-thirds of the cost of steam-power. With a reservoir 5 to 15 acres may be kept irrigated by a windmill. Without a reservoir 3 acres is as much as should be counted on. Windmills attached to wells from 30 to 150 feet deep cost from 30*l.* to 70*l.*

Artesian Wells.

Up to now the artesian well cannot be counted on as of great value for irrigation. In the State of California there are said to be 8,097 artesian wells, of a mean depth of 210 feet, discharge .12 cubic feet per second and original cost on an average 50*l.* Thirteen acres per well is a large outturn.

In Algeria the French have bored more than 800 artesian wells, with a mean depth of 142 feet, and they are said to irrigate 50,000 acres. But this is scattered over a large area. Otherwise, the gathering ground would probably yield a much smaller supply to each well than it now has. In Queensland artesian wells are largely used for the water supply of cattle stations, but not for irrigation.

Well Irrigation.

It is evident that where water has to be raised on to the field there is an outlay of human or mechanical power which may be saved if it can be brought to flow over the fields by gravitation. But there is one practical advantage in irrigating with the water raised from one's own well or from a river. It is in the farmer's own hands. He can work his pump and flood his lands when he thinks best. He is independent of his neighbours, and can have no disputes with them as to when he may be able to get water and when it may be denied to him. In Eastern countries, where corruption is rife among the lower subordinates of Government, the farmer who sticks to his well knows that he will not require to bribe anyone, and so it is that in India about 13,000,000 acres, or 30 per cent. of the whole annual irrigation, is effected by wells. Government may see fit to make advances to enable the farmer to find his water and to purchase the machinery for raising it, or joint-stock companies may be formed with the same object. Beyond this all is in the hands of the landowner himself.

Canal Irrigation.

Irrigation on a large scale is best effected by diverting water from a river or lake into an artificial channel and thence on to the fields. If the water surface of a river has a slope of 2 feet per mile, and a canal be drawn from it with a surface slope of 1 foot per mile, it is evident that at the end of a mile the water in the canal will be 1 foot higher than that in the river; and if the water in the river is 10 feet below the plain, at the end of ten miles the water in the canal will be flush with the plain, and henceforth irrigation can be effected by simple gravitation.

When there is no question of fertilising deposit, and only pure water is to be had, the most favourable condition of irrigation is where the canal or the river has its source of supply in a great lake. For, be the rainfall ever so heavy, the water surface in the lake will not rise very much, nor will it greatly sink at the end of a long drought. Where there is no moderating lake a river fed from a glacier has a precious source of supply. The hotter the weather the more rapidly will the ice melt, and this is just when irrigation is most wanted.

Elsewhere, if crops are to be raised and the rain cannot be counted on, nor well irrigation be practised, water storage becomes necessary, and it is with the help of water storage that in most countries irrigation is carried on.

Water Storage.

To one who has not given the subject attention surprise is often expressed at the large volume of water that has to be stored to water an acre of land. In the case of rice irrigation in India it is found that the storage of 1,000,000 cubic feet of water does not suffice for more than 6 to 8 acres. For the irrigation of wheat about one-third this quantity is enough. It would never pay to excavate on a level plain a hollow large enough to hold 1,000,000 cubic feet of water. It is invariably done by throwing a dam across the bed of a river or a valley and ponding up the water behind it. Many points have here to be considered. The length of dam necessary, its height, the material of which it is to be constructed, the area and the value of the land that must be submerged, the area of the land that may be watered. The limits of the height of a dam are from about 150 to 15 feet. If the slope of the valley is great it may be that the volume which can be ponded up with a dam of even 150 feet is inconsiderable, and the cost may be prohibitory. On the other hand, if the country is very flat, it may be that a dam of only 20 feet high may require to be of quite an inordinate length, and compensation for the area of land to be submerged may become a very large item in the estimate. I have known of districts so flat that in order to irrigate an acre more than an acre must be drowned. This looks ridiculous, but is not really so, for the yield of an irrigated acre may be eight or ten times that of an unirrigated one; and after the storage reservoir has been emptied it is often possible to raise a good crop on the saturated bed.

The advantage of a deep reservoir is, however, very great, for the evaporation is in proportion to the area of the surface, and if two reservoirs contain the same volume of water, and the depth of one is double that of the other, the loss by evaporation from the shallow one will be double that of the deep one. In India, from time immemorial, it has been the practice to store water for irrigation, and there are many thousands of reservoirs, from the great artificial lakes holding as much as 5,000 or 6,000 millions of cubic feet, down to the humble village tank holding not a million. There are few of which the dam exceeds 80 feet in height, and such are nearly always built of masonry or concrete. For these it is absolutely necessary to have sound rock foundations. If the dam is to be of earth, the quality of the soil must be carefully seen to, and there should be a central core of puddle resting on rock and rising to the maximum height of water surface. If the dam is of masonry, there may perhaps be no harm done should the water spill over the top. If it is of earth this must never happen, and a waste weir must be provided, if possible cut out of rock or built of the best masonry, and large enough to discharge the greatest possible flood. More accidents occur to reservoirs through the want of sufficient waste weirs or their faulty construction than from any other cause.

As important as the waste weir are the outlet sluices through which the water is conveyed for the irrigation of the fields. If possible they should be arranged to serve at the same time as scouring sluices to carry off the deposit that accumulates at the bottom of the reservoir. For, unless provided with very powerful scouring sluices, sooner or later the bed of the reservoir will become silted up, and the space available for water storage will keep diminishing. As this happens in India, it is usual to go on raising the embankment (for it does not pay to dig out the deposit), and so the life of a reservoir may be prolonged for many years. Ultimately it is abandoned, as it is cheaper to make a new reservoir altogether than to dig out the old one.

Sir Alexander R. Binnie, engineer, has taken up his residence at Bircort Lodge, Toome, where he will remain for the next two months investigating the causes of the flooding of the area surrounding Lough Neagh, and the best methods to be adopted to remedy the evil.

NOTES AND COMMENTS.

An experiment in cheap cottage building has been commenced at Thornton, which adjoins Blackpool. A land company has assigned a part of their property for the purpose. The normal expense for each cottage is at present taken to be 150*l.* The first cottage has, however, cost 180*l.*, but the by-laws of the Thornton Urban Council have been complied with, and in them there is no recognition of such houses as are contemplated. The bricks were obtained from Blackpool and the tiles from Staffordshire. The accommodation consists of a living-room 17 feet 3 inches by 12 feet, scullery 11 feet by 10 feet, and the bedrooms are respectively 12 feet by 12 feet, 8 feet 9 inches by 8 feet and 11 feet by 10 feet. The height of all the rooms is 9 feet, and cubical contents of bedrooms are 2,916 cubic feet, as against 2,000 cubic feet required at Letchworth. The cost of the cottage works out at 4½*d.* per cubic foot. There is no bath-room, but the plan is so arranged that this additional convenience could be added over the porch at a cost of about 20*l.* The wash-house and other offices are separately built at the rear of the back garden. The appearance of the cottage is pleasing, and it would serve as one of those holiday-houses which Sir James Crichton Browne recommended people to build for their own use. A bungalow is in progress on the estate which is estimated to cost 154*l.*

It appears that at Champlieu, near Compiègne, there are the remains of a Roman theatre. It is not described in guide books, but at the present time much importance is attached to it. The performances in the Roman theatre at Orange have been so successful, there is regret that they are so far from Paris. A journey to Orange, in the south of France, is a serious undertaking. It is, therefore, proposed to restore the theatre at Champlieu, and the Department of Fine Arts has decided to give it support. At present the district is one of the most interesting in France, for it includes Meaux, Senlis, Chantilly, Clermont, Beauvais, Compiègne and Soissons. But all those places are well known to the Parisian. The Roman theatre, with representations of the classic drama, would therefore bring an increase of revenue to the hotel-keepers.

According to the last annual report on education in Scotland grants were paid to the amount of 687,366*l.* in aid of erecting 1,004 residences for teachers, and of building 1,402 new schools for 284,806 scholars and enlarging or improving 498 schools for 53,615 scholars, or for 338,421 in all. For 72,081 of these scholars accommodation was provided before the passing of the Act of 1872 by voluntary effort, aided by school building grants, in 422 new and 128 improved schools, at a cost to the promoters of 230,122*l.* 14*s.* 8¼*d.* and to the State of 109,411*l.* 3*s.* 1½*d.*, and at the rate of about 4*l.* 14*s.* 2*d.* per scholar. After the passing of the Education Act of 1872 building grants were made only to school boards in respect of public schools, and, upon application lodged before December 31, 1873, grants to the amount of 577,955*l.* were paid to school boards for the erection of 980 new and the enlargement or improvement of 370 old schools, and for 766 teachers' residences. With the aid of these grants, met by local expenditure from the rates to the amount of 2,097,883*l.*, accommodation was provided for 266,340 children, at a cost of 7*l.* 17*s.* 6*d.* per scholar from the rates, and 2*l.* 3*s.* 5*d.* from the Parliamentary grant; or at a total rate of 10*l.* 0*s.* 11*d.* per scholar. Since August 1878 the Scottish Education Department have sanctioned loans to the amount of 6,803,103*l.* 8*s.* 6*d.* The total sum of the loans sanctioned by the Board of Education and the Department, amounting to 9,201,905*l.* 17*s.* 3*d.*, thus represents the expenditure chargeable to the school rates from 1872 to January 31 last, in providing school accommodation. Of this amount 2,097,883*l.* represents the contributions from scho boards towards the provision of schools which wer aided by building grants from the Department, whi 7,104,023*l.* represents expenditure upon school accon modation provided by school boards without an aid from school building grants. From these variou resources school accommodation to the amount 967,622 places, showing an increase of 244 per cen in the last thirty-two years, has been supplie to meet the requirements of the country. The buildin grants having ceased, the only assistance which ca now be given to localities which have to provide add tional accommodation is that afforded by loans, whic render it possible to spread the expenditure from rate over a period of years.

The history of the Union Centrale des Ar Décoratifs whenever it is related will record som strange incidents. It was founded without the aid governmental machinery, and in France that is a crim which is long remembered. The committee were abl to obtain a large number of precious objects, and als raised money by the aid of a lottery. Then the applied to the Government for a building. For year there was a contest over the position. The committe were prepared to pay for restoring the ruins of th building on the Quai d'Orsay, of which the communis were not able to complete the destruction. Th Government agreed and then cancelled the agreemen Finally the Union were granted the Pavillon d Marsan. The collections are therefore national pro perty, only artists who are not officials have som share in the management. A patriotic Frenchman M. Peyre, recently bequeathed all his examples of ar to the Union. Thereupon the financial authoritie claimed 260,000 francs as legacy duty. If any Englis amateur left objects for the South Kensington Museu to the advisory committee on art we suppose no clai would be made on them. The predecessors of th committee of the Union displayed independence, an their successors must bear the penalty. On representing the absurdity of claiming dues from individual for property they do not possess, the amount wa reduced to 180,000 francs and afterwards t 80,000 francs. As no duty will be paid we may expec to find the authorities seizing the collections which ar supposed to be the property of Frenchmen. A mor ridiculous position could hardly be attained b officialism in this country.

ILLUSTRATIONS.

NATURAL HISTORY MUSEUM, SOUTH KENSINGTON.

We publish a view of the central part of the front of the Natural History Museum, South Kensington, as one of the most remarkable of the works of the late Alfred Waterhouse. The building is referred to elsewhere, and it is remarkable no only for its design, but for the impetus it gave to the terra-cotta industry. It was one among many of the buildings which Mr. Waterhouse produced as educational institutions, for in that class he was a pioneer. What the late Dr. A. S. Wilkins said on the occasion when Mr. Waterhouse obtained the degree of LL.D. from the Victoria University should be remembered, as one of the best tributes to the architect in aiding teachers:—"If the colleges of the Victoria University now contribute not only to the intellectual wealth, but also to the beauty and dignity of the cities in which they are placed, this is due to him who is responsible for the form which their buildings have taken."

ABBESS GRANGE, HAMPSHIRE.

DRAWING-ROOM AT STAPLEFORD PARK.

DESIGN FOR BAPTIST CHURCH AND SCHOOLS, WEST BRIDGFORD.

ANCIENT MAPS.*

T is interesting to look back and see the gradual progress of the delineation of the world and to mark how very cent any approach to accuracy is. The very earliest aps of any extent of country are unfortunately lost to us. ıe first man who made a map of which any historical cord exists is Anaximander of Miletus, about 600 B.C., but e know nothing of it. A map is mentioned by Herodotus having been taken in 500 B.C. by Aristagoras of Miletus the shape of an engraved bronze plate, whereon the ıole circuit of the earth was engraved, with all its seas d rivers, to influence Cleomenes, king of Sparta, to aid e Ionians against Persia. This was probably the work of ecatæus, to whom early geography owed much. His orks are also only known to us by quotation, but they are pecially interesting as containing an early idea of the nits of Africa, which he represents as entirely surrounded the sea, a circumstance apparently either forgotten or sbelieved in later years.

Erotosthenes, 250 B.C., and Hipparchus 150 B.C., made eat advances, and the former made the first attempt to easure the size of the earth by the difference of latitudes tween Assouan and Alexandria in Egypt, an attempt ıich, considering the great imperfection of his means, ıs remarkably successful, as, assuming that we are right the length of the stadium he used, he made the circumference of the globe 25,000 geographical miles, whereas it ould be 21,600. He also devised the system of meridians d parallels as we now have them, but the terms atitude" and "longitude," to denote positions on those cles, were introduced by Ptolemy.

The maps of Ptolemy, the great Alexandrian astronomer d geographer of A.D. 150, are the earliest we possess. drew, besides a general map of the whole known world m the southern part of the Baltic to the Gulf of Guinea, rth and south, and from the Canary Islands to the China a, east and west, a series of twenty-six maps of the different parts. Ptolemy's maps and his method of represent- the spherical globe on a flat surface had a great influence geography for many years. After his time the Greek ilisation waned, and the general decline of the Roman ıpire, followed by its disruption by the invasion of bar- ians, closed the course of discovery in all branches of earch for centuries. It is not too much to say that for oo years no advance was made, and until the commencement of exploration by sea, which accompanied the general ival of learning in the fifteenth century, Ptolemy's maps resented the knowledge of the world. As might be ected, the further he got from the Mediterranean the ater were his errors, and his representations of Eastern ia and North-Western Europe are somewhat grotesque, ugh quite recognisable in the main. Of Africa south of Equator he knows nothing, and his map of it terminates h the border.

This is somewhat remarkable, as I am one of those who nly believe in the circumnavigation of Africa by the enicians sent by Necho, king of Egypt, in 600 B.C. from head of the Red Sea. As described by Herodotus the age has all the impress of veracity. My personal faith Herodotus was much strengthened by finding when I veyed the Dardanelles in 1872 that his dimensions of t strait were nearer the truth than those of other and r authorities, even down to the time at which I was at k, as well as by other geographical tests I was able to ly. When, therefore, he records that the Phœnicians lared that in their voyage they had the sun on their right d, and says he does not believe it, he registers an item nformation which goes far to prove the story correct. uenced by Hecatæus, who though surrounding Africa by sea cut it far short of the Equator, Herodotus could not ceive that the travellers had passed to the south of the when it was in the southern tropic.

No historical incident has been more discussed than this age, commentators varying much in their opinions of its h. But we have to-day some new facts. No one who followed the exploration of the ancient buildings in desia and considered the information we possess on the y inhabitants of Southern Arabia, whether we call them æans or Himyarites, can doubt that the former were nly the work of men coming from Arabia at a very y date, while the period of time necessary to carry out l-mining operations over the large areas now found to e been exploited must have been very great.

It seems strange that no record of the constant voyages to this El Dorado should remain, but the very natural desire to keep lucrative information to themselves is not an unknown thing amongst traders of the present day, while the conditions of society and the absence of written records of South Arabia would make concealment easy. The Phœnicians, an allied race, and the great seafaring trading nation of the Mediterranean, succeeded in keeping the majority of their marts secret, and we have incidents recorded showing their determination not to allow others to follow their steps, while to this day we are very doubtful of the limits of their voyages.

It may be considered certain that while we naturally quote Greek historians and geographers as the early authorities for the growth of geographical knowledge, and that the scientific basis for proper maps of large areas was really provided by them, the seafaring nations—Arabians, Phœnicians and Chinese—knew a very great deal practically of the coasts of various parts of the Old World that were absolutely unknown to the Greeks.

The favourable conditions afforded by those remarkable periodic winds, the monsoons, would in the China Sea, Bay of Bengal and the Arabian Sea naturally facilitate any attempts at extensive sea voyages, and would lead to such attempts under conditions that in the regions of variable winds would be considered too dangerous and uncertain. The fact that the monsoons in nearly every case blow practically parallel to the coasts in opposite directions is a most important factor in considering early navigation. The direction of the wind itself in such cases roughly guides a vessel without a compass, and the periods of cyclones and unsettled weather between the monsoons would soon be noted and avoided, as they are to this day by the Arabs and Chinese, whose vessels, I have very little doubt, have remained practically the same for thousands of years.

The unknown Greek author of that unique and most interesting document, the "Periplus of the Erythræan Sea," probably of the first century A.D., describes vessels built without nails, whose planks were bound together by cords, in precisely the same way as many Arab dhows now navigating the Indian Ocean. His personal knowledge of Africa evidently ceased at Cape Guardafui, though he gives information gained from others on the east coast as far as Zanzibar, which—or, rather, a part on the mainland near—he describes as the limit of trade to the south. We know that Arabs had penetrated further, but no doubt they kept their knowledge to themselves.

These early navigators very probably had charts. When Vasco da Gama first passed along the eastern cost of Africa he found that the Arab dhows had charts. Unfortunately none of them have come down to us, or it would have been interesting to compare them with those of the west coast used by the Portuguese at the time, and which were of the crudest description.

I claim for sailors of all ages that they would be the first to make practical maps of the shape of the coasts. Their safety and convenience demanded it, while it is a far easier task to compile such a picture of the earth from successive voyages along coasts over the sea, where average distances from known rates of sailing and courses from the sun and stars can be more accurately ascertained, than from long and generally tortuous land journeys in directions governed by natural features, towns and so forth. A navigator must be a bit of an astronomer. A landsman to this day seldom knows one star from another. It was the sea-charts, or portolani, of the Middle Ages that on the revival of learning first gave respectable representations of the shape of the coasts, at a time when the learned monks and others were drawing the most fantastic and absurd pictures which they called maps.

At the same time it must be remembered that in all ages and down to the present day pilots, who within a hundred years were usually carried by all ships, even for sea voyages, jealously keep their knowledge largely in their heads, and look upon good charts as contrivances to destroy their profession, and that such charts or notes as they had they would keep religiously to their fraternity.

The Egyptians were no sailors, but we know that they habitually employed Phœnicians for sea expeditions, while we have the historical record of the Old Testament for their employment by David and Solomon for a like purpose in the Red Sea, and probably far to the south. It is, therefore, almost impossible to doubt that the Phœnicians were also acquainted with the navigation of the Red Sea and east coast of Africa. Such a voyage as that recorded by

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* From the address of Rear-Admiral Sir W. J. L. Wharton to Geographical Section of the British Association at Cape Town.

Herodotus would, under these circumstances, be far from improbable.

The varying monsoons which had led the Arabians centuries before to get so intimate a knowledge of the east coast as to enable them to find and work the goldfields would be well known to the Phœnicians, and the hardy seamen who braved the tempestuous regions lying between Cadiz and Great Britain would make little of the difficulties of the African seas.

The limit of easy navigation from and to the Red Sea is Sofala. I do not think that it is too great a use of imagination to suppose that it would be from information received in what is now North Rhodesia that it was learnt that to the westward lay the sea again, and that this led to the attempt to reach it by the south.

Once started from the neighbourhood of Sofala they would find themselves in that great oceanic stream, the Agulhas Current, which would carry them rapidly to the southern extremity of Africa.

I, as a sailor, can also even conceive that finding themselves in that strong current they would be alarmed and attempt to turn back, and that after struggling in vain against it they would have accepted the inevitable and gone with it, and that without the Agulhas Current no such complete voyage of circumnavigation would have been made.

As Major Rennell in the last century pointed out, once past the Cape of Good Hope, the periodic winds and over a great part of their journey the currents would help them up the West African coast, and the general conditions of navigation are favourable the whole way to the Straits of Gibraltar, the ships keeping, as they would do, near the land; but we can well understand that, as recorded, the voyage occupied nearly three years, and that they halted from time to time to sow and reap crops. I should say that it is highly probable that either Simon's Bay or Table Bay was selected as one of these stopping-places. No reference to this voyage has been found amongst the hieroglyphic records, and, indeed, so far few such records of Necho, whose reign was not for long, are known; but that it was regarded at the time as historical is evident, for Xerxes, a hundred years later, sent an expedition to repeat it in the contrary direction. This, however, failed, and the unfortunate leader, Sataspes, was impaled on his unsuccessful return. This attempt shows that the greater difficulty of the circumnavigation from west to east, as compared with that from east to west, was not realised, and points to the concealment of any details of the successful voyage.

Of Hanno's voyage from the Straits of Gibraltar to about Sierra Leone, the date of which is uncertain, but from 500 to 600 B.C., we should know little had not good fortune preserved the record deposited in a Carthaginian temple.

But the well-known serecy of the Phœnicians in all matters connected with their foreign trade and voyages would explain why so little was known of Necho's voyage, and our present knowledge of the extensive ancient gold workings of Rhodesia shows how much went on in those times of which we are wholly ignorant.

I have dwelt perhaps too long on this subject, but it has to me a great interest; and as it has not, so far as I know, been dealt with by a seaman who is personally well acquainted with the ways of seamen in sailing ships and with the navigation of the coasts in question, I hope I may be excused for putting my views on record.

There are several references in Greek and Latin historians to other circumnavigations, but none of them can be trusted, and apart from Necho's voyage we hear nothing of the east and south coasts of Africa until the arrival of the Portuguese at the end of the fifteenth century. But they found a thriving civilisation along the coast from Sofala northward, Shirazi, Arab and Indian.

Ruins exist in many places which have not yet been properly investigated, and we are quite unable to say from what date we are to place the earliest foreign settlements, nor how many breaks existed in the continuity of the gold-mining, which apparently was proceeding at or very shortly before the Portuguese visit.

After the recommencement of exploration by sea in the fifteenth century seamen slowly gathered enough information to draw the lines of the coasts they passed along, and in time—that is, by the middle of the eighteenth century—most lands were shown with approximately their right shapes. But of true accuracy there was none, for the reason I have before mentioned, that there was no exact method of obtaining longitude.

If we look at a general world chart of A.D. 1755—and to get the best of that period we must consult a F chart—we shall find on this small scale that the sha the continents is fairly representative of the truth. when we examine details we soon see how crude it all

I have compared with their true positions the posi of thirty-one of what may be taken as the fundam points in the world as given in the larger-scaled F charts of 1755, from which the general one is drawn, find that on an average they are 48 miles in error. errors vary from 160 miles to two miles. If the deline of the coast-lines between be considered, the inaccu are very much greater.

Very shortly after this date more accurate deter tions began to be made. The method of lunar dist was perfected and facilitated by tables published i various astronomical "ephemerides," and seamen explorers commenced to make use of it. Still the obs tion required constant practice, and the calculation, u constantly made, was laborious, and it was used complete success by the few. The great Captain who may be looked upon as the father of modern me of surveying, did much to show the value of this me but the chronometer came into use shortly after, an principal advance in exact mapping was made by its a

There is a vast amount yet to be done for geogr Until we possess publications to which we can turn fo information on all geographical aspects of things o globe of ours, there is work to be done. Seeing tha present publications are only now beginning to be w of being considered trustworthy for the very small an of knowledge that we already possess, geographical in all its branches is practically never-ending.

ICKLESHAM, RYE AND WINCHELSEA

A PARTY of about 150 members of the Sussex Ar logical Society spent an enjoyable time amon ruins of Winchelsea and Rye and other interesting sp the 17th inst. The party, which was in charge of Mr. Turner, included representatives from many towns.

The visitors were greatly charmed, says the *Daily News*, with the scenery of Fairlight, where the in all directions are very extensive and picturesqu haze prevented a clear view of the Ness for a tim later in the day the observer could pick out the light and other prominent features, while camp tents nea shore were also to be seen. A brake was standing o roadside about 2½ miles from Icklesham, the axle h apparently given way while conveying a number of j Salvationists from Rye to Hastings to partake o hospitality of Baroness von Roemer.

Icklesham Church.

Icklesham was reached at noon—half an hour according to the programme—and the party immed assembled in the churchyard, having been met b William Dawes (secretary of the Rye Society). The of describing the church was undertaken by the Rev. Livett, who has spent a great deal of his time collatin extensive knowledge which he possesses concerning historic building, with its Norman nave, aisles and t Early English arcade and Decorated east window. Origi he said, the nave had its own roof, and there was a roof to the aisle covered by the present span roof. was proved by the fact that on the west side of the No tower there was a window corresponding to the doorw front of them, and that window would have been use the roof had covered it. In the fourteenth century bu to save expense, used to put span roofs over the aisles. curious, too, that this tower should be added on the side of the chancel, it being the side of the approach church. As a rule early additions were made on the site side to the approach. Battle Church was worke from the remains of one single Norman arch, an church was an exact replica of that building and a confirmation of its history.

When the visitors were seated in the nave o church, Mr. Livett, having expressed regret that the (Rev. C. Power Mounteney) was unable to be prese welcome them, assisted his explanation of the c with a plan, and said there were two aisles separat two arcades with a north chapel beyond the high ch He would call it an Early Saxon church. He expl that towers on the sides of churches were always add and proceeded to show how the church was enlarged time to time. Referring to the old facings, he said o indows had the original axe marks upon it, and he was his old appearance had been preserved. At Rye there a lamentable state of affairs, the repairer's tools having away all the old look in the endeavour to render thing spic and span. He proceeded to show the work illustrated the use of the Early Norman axe and the English chisel, and they were really excellent ples of the period. The groining of the tower and early pointing of the arcade were examined, and tion called to the tracery of the Decorated windows their corklike stops. The chapel windows were very and called to mind the idea that these windows had , but the marks for the cusps could not be fonnd. pence, he thought, might go to make something more iful of the windows.

Winchelsea.

he drive to Winchelsea was charming. The vehicles ed through a long lane fragrant with honeysuckle, roses and other flowers, until once more there was a age. The party found themselves in a meadow surled by rustic scenery; it is known as the old tennis of the late Mr. F. A. Inderwick, K.C.

r. Harold Sands, F.S.A., read an excellent paper by a very quick idea could be obtained of the history surroundings of New Winchelsea. Old Winchelsea shrouded in the mists of a remote antiquity, and it was nsequence of the continuous havoc of the sea, which ently inundated the place, that in 1276 Edward I. took ures for the transfer of the entire town to a new and site. A large seaport was evidently prepared for, but, g to the gradual retreat of the sea and the silting up e fine land-locked harbour, was never finished. The hes of St. Thomas (of which the choir remains) and iles and St. Leonard, a house of Grey Friars and one ack Friars, were also referred to. The town suffered ely by attacks from the French on six occasions, having burned by them four times. King Edward I. also had rrow escape while riding a frightened horse, which d the wall near the Land Gate in 1297.

he party then paid visits to the parish church of St. as the Apostle, where Mr. P. M. Johnston ably ded its structure and peculiarities. In the court house or hall, on the north side of the churchyard, were shown ncient silver maces and seals of Winchelsea, and by permission of Major Stileman a view was obtained of apel of Grey Friars. There was a nice walk from down through the borough to the Shand Gate. In the hes below Camber Castle at the old harbour mouth be observed one of the block houses built by y VIII. in 1538 against the threatened invasion, and other points of interest presented themselves as the le continued; but time was limited, the journey having delayed far too long (according to the programme). ly.

Rye.

fter lunch the party visited Rye. Under the guidance . Harold Sands and Mr. W. Dawes they proceeded gh the Land Gate, built about 1327 (Edward III.), by ast Cliff, East Street and Ypres Street to Ypres Tower, ll castle built by Peter de Savoy in 1249. This buildaims the greatest antiquity in the town. The tower rected at the south-east angle of the town to combine vo objects of a watch tower and a tower of defence, onsidering the peculiar locality of Rye at the period erection it must be said that the spot was well n. . .

anding on the edge of a steep rocky cliff, at the foot of flowed the sea, forming in those days a good defence, ower was not easily assailable, and its purpose as a tower was fully attained, for the whole coast from ght on the west to Folkestone cliffs on the east was ctly visible from its top. It is a quadrangular buildvith a round tower at each corner. There are two in the building, one on the ground floor and one , each 15 feet square. A strange peculiarity is that is a door at every corner of each room communicating one of the towers. The walls are 4 feet thick and wers are about 40 feet high. In 1837 a new building added on the south-east side of the tower for the se of enlarging the gaol, which work had become sary under an Act of Parliament compelling corporate to provide more fully for the safe custody of their ers. Up to the year 1891 the tower was used by the ration as a lock-up for prisoners, but as it was coned by the Government inspector of prisons a new block of police buildings was erected close by. One of the lower chambers is now utilised as a public mortuary.

All these and other facts were described by Mr. Harold Sands, and the members were enlightened on the great historical features of so interesting a building.

Rye Churches.

The chapel of Carmelite Friary and the old stone house in Watch Bell Street were also visited, and the ancient church of Rye was entered by the south door. Previous to inspecting the interior of the church, particular observation was made of the flying buttresses at the east end and south-east corner of the church, which are used as a support to the arches. Inside the sacred edifice, one of the largest in the kingdom, was described by Mr. J. Borrowman.

Mr. W. B. Renshaw, K.C., then read a paper on "An Early Seventeenth-Century Incident in the Church of Rye." The incident, which was very amusing, was that one James Whitaker was appointed curate of the church in 1623, to the disgust of Thomas Warren, who was then, and had been for some years previously appointed by the Mayor and jurats as their lecturer and preacher. Warren was often before the Archdeaconry Court at Lewes, owing to his puritanical teachings, and the trouble between Whitaker and Warren arose in 1624, when Warren, being jealous that Whitaker should receive the customary fee for preaching a funeral sermon, forcibly kept Whitaker out of the pulpit; but whether the sermon was preached does not appear in the records. Warren and others subsequently behaved in a disorderly manner and were charged before the Court.

Jeake's House, &c.

The party left the church by the north door for the town hall to see the Corporation seal, charters, maces, &c.

A visit was next paid to Jeake's house in Mermaid Street and the old Mermaid inn along High Street, where notice was taken of the old grammar school founded in 1636, the party also proceeding down Conduit Hill to the chapel of Augustinian Friars, with its three fine flamboyant tracery windows in the south wall. This was the conclusion of the inspection, and the members of the Society returned to the marquee and by the kind invitation of the Mayoress partook of tea.

Mr. H. E. Franks exhibited his collection of rubbings of brasses.

THE CONDITIONS OF MODERN SCIENCE.*

EACH branch of science now has an enormous array of workers, a development rendered more easily possible by the growing increase in the number of professional posts; and through the influence of these workers and their labours there is an ever-increasing body of scientific facts. Yet an aggregate of facts is not an explanatory theory any more necessarily than a pile of carefully fashioned stones is a cathedral; and the genius of a Kepler and a Newton is just as absolutely needed to evolve the comprehending theory as the genius of great architects was needed for the Gothic cathedrals of France and of England. Not infrequently it is difficult to make out what is the main line of progress in any one subject, let alone in a group of subjects; and though illumination comes from striking results that appeal not merely to the professional workers, but also to unprofessional observers, this illumination is the exception rather than the rule. We can allow, and we should continue to allow, freedom of initiative in all directions. That freedom sometimes means isolation, and its undue exercise can lead to narrowness of view. In spite of the complex ramification of the sciences which it has fostered, it is a safer and a wiser spirit than that of uncongenial compulsion, which can be as dogmatic in matters scientific as it can be in matters theological. Owing to the varieties of mind, whether in individuals or in races, the progress of thought and the growth of knowledge are not ultimately governed by the wishes of any individual or the prejudices of any section of individuals. Here, a school of growing thought may be ignored; there, it may be denounced as of no importance; somewhere else, it may be politely persecuted out of possible existence. But the here, and the there and the somewhere else do not make up the universe of human activity, and that school, like Galileo's earth in defiance of all dogmatic authority, still will move.

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* From the address of Professor A. R. Forsyth, as president of the Mathematical and Physical Section of the meeting of the British Association at Cape Town.

This complete freedom in the development of scientific thought, when the thought is applied to natural phenomena, is all the more necessary because of the ways of nature. Physical nature cares nothing for theories, nothing for calculations, nothing for difficulties, whatever their source; she will only give facts in answer to our questions, without reasons and without explanations; we may explain as we please and evolve laws as we like without her help or her hindrance. If from our explanations and our laws we proceed to prediction, and if the event justifies the prediction through agreement with recorded fact, well and good: so far we have a working hypothesis. The significance of working hypotheses, in respect of their validity and their relation to causes, is a well-known battle-ground of dispute between different schools of philosophers; it need not detain us here and now. On the other hand, when we proceed from our explanations and our laws to a prediction, and the prediction in the end does not agree with the fact to be recorded, it is the prediction that has to give way. But the old facts remain and the new fact is added to them; and so facts grow until some working law can be extracted from them. The accumulation of facts is only one process in the solution of the universe: when the compelling genius is not at hand to transform knowledge into wisdom, useful work can still be done upon them by the construction of organised accounts which shall give a systematic exposition of the results, and shall place them as far as may be in relative significance.

Let me pass from these generalities, which have been suggested to my mind by the consideration of some of the scientific changes that have taken place during the last hundred years, and let me refer briefly to some of the changes and advances which appear to me to be most characteristic of that period. It is not that I am concerned with a selection of the most important researches of the period. Estimates of relative importance are often little more than half-concealed expressions of individual preferences or personal enthusiasms; and though each enthusiastic worker, if quite frank in expressing his opinion, would declare his own subject to be of supreme importance, he would agree to a compromise that the divergence between the different subjects is now so wide as to have destroyed any common measure of comparison. My concern is rather with changes and with tendencies where these can be discerned.

The growth of astronomy has occupied so large a share of my remarks that few more words can be spared here. Not less but more remarkable than the preceding centuries in the actual exploration of the heavens, which has been facilitated so much by the improvements in instruments and is reinforced to such effect by the co-operation of an ever-growing band of American astronomers, it has seen a new astronomy occupy regions undreamt of in the older days. New methods have supplemented the old; spectroscopy has developed a science of physics within astronomy, and the unastronomical brain reels at the contents of the photographic chart of the heavens which is now being constructed by international co-operation, and will, when completed, attempt to map 10,000,000 stars (more or less) for the human eye.

Nor has the progress of physics, alike on the mathematical side and the experimental side, been less remarkable or more restricted than that of astronomy. The elaborate and occasionally fantastic theories of the eighteenth century in such subjects as light, heat, even as to matter itself, were rejected in favour of simpler and more comprehensive theories. There was one stage when it seemed as if the mathematical physicists were gradually overtaking the experimental physicists; but the discoveries in electricity begun by Faraday left the mathematicians far behind. Much has been done towards the old duty, ever insistent, of explaining new phenomena; and the names of Maxwell, Weber, Neumann and Hertz need only to be mentioned in order to suggest the progress that has been made in one subject alone. We need not hesitate to let our thoughts couple with the great physicists of the century the leaders of that brilliant band of workers upon the properties of matter who carry us on from wonder to wonder with the passage of each successive year.

Further, it has been an age when technical applications have marched at a marvellous pace. So great has been their growth that we are apt to forget their comparative youth; yet it was only the middle of the century which saw the awakening from what now might be regarded as the dark ages. Nor is the field of possible application nearing exhaustion; on the contrary, it seems to be increasing by
reason of new discoveries in pure science that yet will
some beneficent outcome in practice. Invisible rays
wireless telegraphy may be cited as instances that
occupying present activities, not to speak of radium,
unfolding of whose future is watched by eager minds.

One gap, indeed, in this subject strikes me. There
great histories of mathematics and great histories of as
nomy; I can find no history of physics on the grand s
Some serviceable manuals there are, as well as monogra
on particular topics; what seems to me to be lacking is s
comprehensive and comparative survey of the whole ra
The history of any of the natural sciences, like the his
of human activity, is not merely an encyclopædic recor
past facts; it reveals both the spirit and the wealth w
the past has bequeathed to the present, and which, in
course, the present will influence before transmission to
future. Perhaps all our physicists are too busy to s
the labour needed for the production of a comprehen
history; yet I cannot help thinking that such a contributio
the subject would be of great value, not to physicists al

But, as you hear me thus referring to astronomy an
physics, some of you may think of the old Roman pro
which bade the cobbler not to look above his last; so I
the opportunity of referring very briefly to my own sub
One of the features of the century has been the contin
development of mathematics. As a means of calcula
the subject was developed as widely during the ea
portion of the century as during the preceding century
soon began to show signs of emergence as an indepen
science, and the later part of the century has witnessed
emancipation of pure mathematics. It was pointed ou
connection with the growth of theoretical astronomy,
mathematics developed in the direction of its applicatio
that subject. When the wonderful school of French ph
cists, composed of Monge, Ganot, Fourier, Poisson, Poi
Ampère and Fresnel (to mention only some names), toge
with Gauss, Kirchhoff and von Helmholtz in Germany,
Ivory, Green, Stokes, Maxwell and others in Engl
applied their mathematics to various branches of phys
for the most part its development was that of an ancil
subject. The result is the superb body of knowledge
may be summarised under the title of "mathema
physics;" but the final interest is the interest of phy
though the construction has been the service of ma
matics. Moreover, this tendency was deliberate and
avowed in no uncertain tone. Thus Fourier could pr
the utility of mathematics by declaring that "there wa
language more universal or simpler, more free from er
or obscurity, more worthy of expressing the unchan
relations of natural entities;" in a burst of enthusiasm
declares that, from the point of view he had indica
"mathematical analysis is as wide as nature herself,"
"it increases and grows incessantly stronger amid all
changes and errors of the human mind." Mathematic
might almost blush with conscious pleasure at such a la
tion of their subject from such a quarter, though it errs
by excess and defect; but the exultation of spirit need
last long. The same authority, when officially expoun
to the French Academy the work of Jacobi and of
upon elliptic functions, expressed his chilling opinion
had nothing to do with the case) that "the question
natural philosophy, which have the mathematical stud
all important phenomena for their aim, are also a wo
and principal subject for the meditations of geometers.
is to be desired that those persons who are best fitte
improve the science of calculation should direct t
labours to these important applications." Abel was
to pass beyond the range of admonition; but Jacobi,
private letter to Legendre, protested that the scope of
science was not to be limited to the explanation of nat
phenomena. I have not quoted these extracts by wa
even hint of reproach against the author of such a won
ful creation as Fourier's analytical theory of heat;
estimate could have been justified on a merely histo
review of the circumstances of his own time and of
times; and I am not sure that his estimate has not
exponents at the present day. But all history sh
that new discoveries and new methods can sprea
issues wider than those of their origins, and tha
is almost a duty of human intelligence to recog
this possibility in the domain of progressive studies.
fact is that mathematical physics and pure mathema
have given much to each other in the past and will
much to each other in the future; in doing so they
take harmonised action in furthering the progress of kn
ledge. But neither science must pretend to absorb

vity of the other. It is almost an irony of circumstance t a theorem initiated by Fourier in the treatise just ntioned has given rise to a vast amount of discussion attention, which, while of supreme value in the elopment of one branch of pure mathematics, have ierto offered little, if anything, by way of added explana- of natural phenomena.

The century that has gone has witnessed a wonderful elopment of pure mathematics. The bead-roll of names that science—Gauss, Abel, Jacobi, Cauchy, Riemann, ierstrass, Hermite, Cayley, Sylvester, Lobatchewsky, —will on only the merest recollection of the work with ich their names are associated show that an age has n reached where the development of human thought is med as worthy a scientific occupation of the human d as the most profound study of the phenomena of the terial universe.

The last feature of the century that will be mentioned been the increase in the number of subjects, apparently similar from one another, which are now being made to mathematics to some extent. Perhaps the most sur- sing is the application of mathematics to the domain of e thought; this was effected by George Boole in his atise "Laws of Thought," published in 1854; and though developments have passed considerably beyond Boole's earches, his work is one of those classics that mark a w departure. Political economy, on the initiative of urnot and Jevons, has begun to employ symbols and to elop the graphical methods; but, there, the present use ms to be one of suggestive record and expression rather n of positive construction. Chemistry, in a modern rit, is stretching out its mathematical theories. Willard bbs, in his memoir on the equilibrium of chemical stems, has led the way; and though his way is a path ich chemists find strewn with the thorns of analysis, his rk has rendered incidentally a real service in co- dinating experimental results belonging to physics and chemistry. A new and generalised theory of statistics is ing constructed, and a school has grown up which is plying them to biological phenomena. Its activity, how- er, has not yet met with the sympathetic goodwill of all pure biologists, and those who remember the quality of discussion that took place last year at Cambridge tween the biometricians and some of the biologists will ree that, if the new school languish, it will not be for nt of the tonic of criticism.

SOME ASPECTS OF ANCIENT AND MODERN EMBROIDERY.*

(Continued from last week.)

AM now about to try and deal, but only in a very general manner, with the conditions that arose and re favourable to a large movement that fostered the arts of signing, religious subjects particularly, and of em- oidering them. Zeal in spreading Christian doctrine lies idently at the root of such movement, which was very rgely due in fact to monasteries, convents, abbeys and e like. These came to be rapidly established throughout ly, France and Britain, which I specify because the amples of ninth, tenth and eleventh-century embroidery have chosen as illustrations were apparently made in the o last-named countries—France and Britain—whilst the st-named, Italy, is practically the birthplace of that form the monastic movement of which I think we must take ief notice.

"It is," says Mr. I. W. Bradley, in his useful handbook on illuminated manuscripts, "a curious and important nchronism that, whilst Justinian was reviving the lendour of Roman arms and political life in the East, Benedict was creating the great religious foundation of onte Cassino, which was to become the preceptrix of the est in religious literature and art. Such was its fame ithin the lifetime of the founder that most of the existing mmunities were eager to adopt its rule; and by the ghth century a number of busy offshoots were not merely ntinuing, but striving anxiously to increase and disseminate practical teachings as the basis of the new Christian vilisation." The monastic life had come from Egypt into ly about the fourth century A.D. It was a life chiefly of sting, meditation and prayer, but so frequently had it degenerated into one of idleness, listlessness and even self-indulgence, that it called into action a reformer in the person of St. Benedict, who appeared on the scene in the sixth century to put matters right. He framed a code of rules by which a monk's time was to be devoted as much to work as to religious exercises. The leading occupations were to be worship, study and labour. Benedict's code is voluminous and precise, and is probably the most famous of all monastic codes. Amongst its regulations there is one requiring abbots of monasteries to provide each monk with a knife, a pen, a needle, a handkerchief and tablets, thus enforcing a general provision of those very things which, in the hands of able and enthusiastic monks, would inevitably, it would seem, lead to systematic practice in writing and drawing and needlework, equally for utilitarian or decorative purposes, or for both.

Illuminated manuscripts—some few with authentic details as to how, when, why and by whom they were produced—have come down to us from the time of St. Benedict, and convince one that a widespread obedience to his rules was long sustained, and was attended with many results of fine writing and illumination. As regards embroidery, the evidence is not so direct; still, it seems to be sufficient for something more secure than plausible inference alone. It was a craft, and as such would come under another part of the Benedictine code, which prescribed that craftsmen in various callings amongst the brethren were to undertake work with the abbot's permission. When their work was for sale those brethren entrusted with making the bargains were to deal honestly with purchasers, and to sell rather below than above current prices. The nunnery established also at Monte Cassino by St. Scholastica, Benedict's sister, was carried on under corresponding regulations, and it is reasonable to suppose that under the favourable conditions of their life Benedictine nuns would, like other women of the times, have paid particular attention to cultivating the arts of embroidery, weaving, &c., taking for their designs those which neighbouring monks had as a rule the greater skill in making.

From an illuminated or rather a well illustrated codex respecting all sorts of things—a Mediæval encyclopædia—written by a scholar of great distinction, Rabanus Maurus, in the ninth century, I have taken a page showing the crafts of spinning or winding threads and work of a weaving character pursued in the gynecea or women's workrooms of his time. From the character of the frame and the stretched rank of warp threads, it must be not an ordinary shuttle-weaving loom, but a darning or tapestry-weaving frame, alike in its essentials to the tapestry-weaving frames which are pictured with women working at them, in manuscripts of much later date. Rabanus Maurus was elected abbot of Fulda, in Germany, in the ninth century, and compiled his codex, or encyclopædia, in his retirement. His codex is now preserved at Monte Cassino, and, as may be easily supposed, is an historical document of very great interest. It throws light upon the general condition of civilisation and industrial employments, the development of which was due at that time practically to the monasteries and their missionaries. That at Fulda, in the eighth century, was as notable for its high standard of activity as those at Monte Cassino, at Tours and at York. Historians have told us how intimate the relations between such centres far distant from one another must have been. Some forty years before Rabanus Maurus was abbot at Fulda, Eginhard, the biographer of Charlemagne, had been educated there. His artistic skill was such that he received the name of Bezaleel, who, as we read in Exodus, was the architect and decorator of the Tabernacle or Sanctuary, a man filled with the spirit of God in wisdom, understanding and all manner of cunning workmanship, including embroidery. Early in life, on account of his great abilities, scholastic and artistic, Eginhard was appointed to the household of Charlemagne, who contracted a close and lifelong friendship with him. Similarly, the Emperor, zealous to promote learning and practice of the arts, enrolled in the circle of his intimate associates and advisers Alcuin, the distinguished scholar and head of the then famous Church School at York. The Emperor had met him casually at Parma, and made his acquaintance, and quickly discovered its great worth. Incidents like these indicate the cosmopolitan and progressive character of the Emperor, and how zealous he was to guide and promote the general social developments of his kingdom.

The boundaries of Charlemagne's kingdom included all modern France and some part of modern Germany, and, scattered over these countries, as well as Britain, were

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[*] A Cantor Lecture by Alan S. Cole, C.B., delivered before e Society of Arts and published in their Journal.

several Benedictine monasteries and convents, working with more or less united enthusiasm for the spread of learning, religion and the arts. Some naturally excelled in their artistic performances, whether in the direction of writing, illumination, or embroidery, or otherwise. It is easy to see, however, that such an extensive organisation became powerful in its religious and educative influences under the practical interest which Charlemagne manifested in it, and the many branches of its operations. With the help of friends such, amongst others, as Eginhard and Alcuin, he organised a large body of officials, experienced men, both of the laity and clergy, to travel about, inspect, report and advise upon the various educational, artistic and other enterprises which were being carried out locally by the different bodies concerned with them. These officials were called missi dominici. The instructions issued to them were very detailed and precise, and their advice and inspection must have generally acted as a stimulus to the inmates of the abbeys, monasteries and schools. It was the custom of many of these establishments to send presents to the Emperor, and inspectors were told to recollect "to order that they who send me horses as presents inscribe their names on each horse, and so with dresses that may be sent us from abbeys."

In connection with this mention of dresses I now refer to a sumptuously embroidered dalmatic, preserved at St. Peter's, in Rome. The tradition is that it was worn by Charlemagne on Christmas Day, 800, the date of his coronation as Emperor of the Holy Roman Empire. He is then said to have sung the Gospel at High Mass, vested as a deacon. Some have ascribed this very fine specimen of embroidery to the hands of the Emperor's wife; others have doubted it being work of the ninth century, and have urged reasons for regarding it as work of the twelfth century. It seems to me to be far too elaborate in design and technical stitchery to have been done by an amateur embroideress, notwithstanding her exalted position as an Empress—a view also applicable, I think, to the idea that Mathilda, wife of William the Conqueror, worked the Bayeux Tapestry. Both of these historically famous needle-stitched embroideries are more probably by embroideresses who were kept pretty closely to their work, doing it under guidance from designs specially drawn by such competent draughtsmen as lived at the respective periods concerned. Now this combination of skill at each period may be confidently looked for at abbeys and monasteries. I will here show two illustrations of the Charlemagne dalmatic. It is of blue silk, embroidered with gold and silver threads mainly, though picked out here and there with red and black. The event depicted on this side of the vestment is apparently the Ascension. The central figure of Christ is worked in silver and the figures below are in gold. The smaller figures on the shoulders and short sleeves represent the administration of the Communion. In the central and important composition, Christ is shown as a man with a beard, a type of portraiture more common according to Christian iconography after the tenth century than before it. The other side of the dalmatic gives us a more formal arrangement of figures, with one representing Christ as a youth beardless, seated and as a sovereign, surrounded by angels and earthly magnates, grouped into a circular arrangement within a roundel. In this composition the central figure of Christ is golden and the surrounding subordinate ones silver, thus reversing the order in which these metal threads were used for the back of the vestment, and indicating the designer's appreciation for the effect of a calculated counter-change of colour. Similarly, his appreciation of the value of contrast is shown in the free and open arrangement of figures on the back, and the circumscribed and closer arrangement of figures on the front. The obvious attention which has been given to æsthetic principles in producing the design, as well as to its epical or story-telling interest, point, as I have said, to the work having issued from some centre, equipped in all respects for constant practice of the decorative arts by competent hands. The beardless Christ, according to Christian iconography, is a more frequent type from the third to the tenth century than later. The fact that both the bearded and beardless Christs appear in this one specimen suggests a compromise in date which goes in favour possibly of the work being of the ninth century, that is, of the time of Charlemagne. The circular grouping of the subordinate figures around the central figure is remarkable. It is unusual, and, so far as I have been able to trace it, seems to have been a scheme of composition not often affected by certain of the monastic artists of the eighth century.

In an illuminated MS., a Sacramentary given Charlemagne, about 826, to his natural son Drogo, ar bishop of Metz, we find an initial C, enclosing a circu grouping of figures which represent the Ascension; Ch is the central predominating figure on the hill or mou stretching His hand to that of the Almighty, which iss from the clouds. About and below the mound are subordinate persons associated with the event. This was probably written and illuminated at the celebra abbey of St. Martin, at Tours, of which Alcuin, after render many years' service to Charlemagne, was appointed h early in the ninth century. This abbey of St. Marti was one of the wealthiest in France, and some notion its size and influence may be derived from the fact t there were more than 20,000 labourers or serfs employ on its domains, exclusive, of course, of the inmates of monastery, in which the enrichment of the library w MSS. engaged the special attention of Alcuin during later years of his life. Under him the abbey rose to s greater fame as one of the best schools of writing a illumination.

Another splendid illuminated MS. produced at Tou and almost contemporary with the Sacramentary of Dro is a Bible presented by Vivianus, a successor to Alcuin the abbacy of St. Martin, to Charles the Bald, who came the throne of France in 840. From this Bible I have taken t celebrated full-page illumination depicting its presentati to the king, who is the central figure, seated, wi attendants near him on the right and left and the dignitari of the abbey below; all these subordinate figures a arranged into a circular group. If this circular group figures were put into a medallion and the architecture we omitted, we should see still more plainly how very simil the composition of it is to that of the medallion containi the beardless Christ on the Charlemagne dalmatic.

Notwithstanding the views put forward in considerab detail by Mons. Didron in his "Annales Archéologique in favour of this vestment being twelfth-century Byzanti embroidery, I think, especially after seeing many of t daintily painted ornaments in other pages of the Vivi Bible and the Drogo Sacramentary, which are similar style to many in the dalmatic, that there are reasonab grounds to regard the dalmatic as a fine specimen of wo of the first half of the ninth century, which may, indee have been made at the abbey of St. Martin at Tours, b that it was worn by Charlemagne at his coronation in S Peter's is less probable.

Its embroidery, showing great skill in stitching gold a silver threads so as to present a flattened surface, is remar able, and is typical also to some extent of a class of wo that seems to have been much practised during a peri from the ninth to the twelfth centuries, if one may jud from the few remains that have been preserved and a available. The better of the embroideries, and possib also the larger number of them, were made in England.

I now show an example of this class of fine Englis embroidery of the early tenth century which is preserved the chapter library of Durham Cathedral. On the sli are three portions only of the stole, figured with Prophe and small conventional leafy ornament worked in fin coloured silks picked out with gold threads, with which th background is wholly worked. The names of the Prophe in capital letters are worked close to the figures, of who Hosea and Joel are in the centre piece, Isaiah on the le hand, and Daniel or Amos on the right. In a part of th stole not included on this slide is an inscription in simila letters to the effect that it was made to the order of Aelfflae Queen of Edward the Elder, who reigned from 901 to 92 and was presented by her to Friedestan, who was bisho of Winchester from 905 to 931. Winchester was the se of Royalty in England, and its monastery became celebrate a few years later under the influence and direction Dunstan, archbishop of Canterbury. But even in th beginning of the tenth century Winchester was notable fo its art in producing MSS. The Archbishop himsel was a skilful artist, having acquired his skill whe a monk at Fleury or Benoît sur Loire. The late Re James Raine, librarian at Durham, suggests that th embroidery now before us was most probably made a Winchester. The design for it is a good example of th style of figure and ornamental designing that then prevaile at the best foreign, if not also English, monasteries. If th designs for these embroideries are not by English hands, i is not unlikely that some Frankish monks, illuminators settled at Winchester, may have made the designs. How ever this may be, authorities on the subject seem to agre at the drawings of the Winchester school, after it came nder Archbishop Dunstan, during the latter part of the nth century and in the eleventh century, possess an nglish distinction which, especially in regard to fine freeand outline drawings, resulted from the grafting, as Sir dward Maunde Thompson writes, of a foreign style upon at of the Anglo-Saxon draughtsmen, giving it strength nd checking its peculiarities, freeing it to a large degree om what strikes us as grotesqueness, and fostering a ealistic representation of incidents and human figures king part in them. I venture to call attention thus articularly to the eleventh-century Anglo-Saxon freehand rawing, as done in monasteries, on account of the interest ttaching to a comparison between it and the drawing volved in such a needlework as the Bayeux Tapestry.

Many writers upon this historical needlework have not, I ink, directed much attention to the value of such comparison s one of the means by which further light may be thrown robably upon the origin and actual production of this nique embroidery. As a suggestion in this direction, I ave taken two outline drawings from a MS. in the British useum, known as Aelfric the Grammarian's Anglo-Saxon araphrase of the Pentateuch, written and illustrated at the ame time, namely, the eleventh century. These drawings re in the nature of illustrations and cannot be regarded as luminations. In the first of them we have a scene of the wo angels at table partaking of the hospitality of Lot, who entering the feast-room; behind him follows a servant earing a bowl. The attitudes of Lot and his servant and rchitectural features will be seen to be closely similar in tyle to many attitudes and architectural features in the ayeux Tapestry. Again, the second drawing, which displays large canopied hall and Lot speaking to his sons-in-law, strikingly similar to corresponding figures and suroundings pictured in the Bayeux Tapestry. With the npression of these drawings fresh in our eyes, let us lance at a small part of the Bayeux Tapestry, very fully escribed and discussed in Mr. Fowke's book on the ubject.

Here we have King Edward the Confessor seated on cushioned throne. With his right hand the king mphasises the remarks he addresses to two persons of ank standing before him. Of these one is undoubtedly arold, who is taking leave of his master previous to uitting the court. Harold is wearing a moustache. And ere we see him and his knights riding to Bosham. Harold nd an attendant, having dismounted, enter the church, and re then entertained at some neighbouring house in a solar r upper hall, the place peculiarly set apart for eating and rinking.

The next incidents depicted are the sailing of Harold nd his suite to the land of Count Guy, arriving on the ast of Ponthieu. Harold in full costume approaches the hore, the anchor of his boat is cast and he prepares to nd. He is seized by the Count Guy, who conducts him Beaurain and there imprisons him. Then follows a cene in which Count Guy, seated on a throne in a canopied all, converses with his prisoner, Harold. After this we ave two knights who were sent by Duke William of ormandy to treat with Count Guy. And here the essengers returning to the duke, who is seated, bearing his left hand a sword.

Now all this needle-stitched embroidery naturally results a heavier effect than that of the pen outline drawings of elfric's Pentateuch, but, notwithstanding this, I think that e gesture of the figures, the expression of their heads, eir hands, legs and feet suffice to show that the annerisms of drawing in the one reappear in the other. o this day the Bayeux needlework is officially called "La pisserie de la Reine Mathilde." Of course it is not a real pisserie or hanging woven in the well-known method, but a needle-stitched embroidery. Moreover, as Mr. Fowke rites, there is nothing to connect the work with Mathilda. was, he concludes, probably ordered by Bishop Odo to ecorate his cathedral at Bayeux, completed, however, rty-six years after the Norman Conquest. The length of e nave of the cathedral coincides with the length of the nbroidery. Whether Odo caused it to be designed and rtly worked in England during the time when he was left William the Conqueror in charge of Kent a few years ter the Conquest, or whether it was done early in the elfth century in Bayeux, are questions to which it seems possible now to give conclusive answers. England was the time becoming famous for her needle-stitched emoidery, and was noted for freehand outline drawing. It possible that Normandy was equally so. The discovery of an original drawing for the Bayeux embroidery, signed and dated, would be an event of supreme archæological interest.

Very briefly let me recapitulate the main points touched on in this lecture. We have had evidence that the same character of darning or weaving embroidery was in practice from 1400 B.C. until the sixth or seventh century A.D.; that needle-stitched embroidery was done from the fourth century B.C. up to the end of the eleventh century; that needle-stitched embroidery seemed to supersede the darning or weaving embroidery from about the eighth century A.D. onwards. We have seen indications of a connection more or less close between the art of manuscript illumination and needle-stitched embroidery from the time of Charlemagne to the twelfth century, and we have had some slight suggestions of the domestic and other conditions under which embroiderers from the fourth century B.C. to the eleventh century A.D. have worked, and how at one period embroidery seems to have been used by wealthy Greeks only, and then more generally by Romans in the decoration of everyday costumes, and how in a succeeding period it seems to have been used almost exclusively for ecclesiastical vestments. The Bayeux Tapestry has shown us an exceptional use of embroidery as a means of recording upon a wall-hanging a secular historic event. In my next lecture I propose to treat chiefly of embroidery in England from the eleventh century onwards to the present day, and to give aspects of it corresponding with those few which have been dealt with in this evening's lecture.

SCOTTISH NATIONAL PORTRAIT GALLERY.

A NUMBER of additions of considerable interest have been made to the Scottish National Portrait Gallery during the past few months. Of these perhaps the most notable and widely interesting, says the *Scotsman*, is the portrait of Sir Walter Scott which Sir John Watson Gordon painted for Mr. Cadell, Scott's publisher, and which the latter's daughter, Mrs. R. H. Stevenson, has lent to the gallery for a time. A three-quarter length, representing Sir Walter seated, his hands crossed upon the top of a walking-stick, and the favourite staghound "Bran" beside him, it was executed in 1830, and is at once an excellent picture and a highly characteristic likeness. Lockhart, in expressing his approbation, adds, "It has only the disadvantage of having been done a little too late." Repeated by the artist with variations for the Speculative Society in 1835, it was engraved for vol. xxxiii. of the collected edition of the novels published by Cadell in 1832, but the print there does little justice to the original, which has never been otherwise reproduced. It is accordingly much less known than many other portraits of Scott, and in its present position one has the advantage of being able to compare it with the very interesting and representative series, now numbering eleven, which belongs to the gallery, and specially with the life-size sketch of Scott's head which Watson Gordon made at this time and always retained in his own possession. Hitherto the collection has included no portrait of the Rev. Dr. Norman MacLeod, but now, through the kindness of Mrs. Moffat, sister of the artist, Tavernor Knott, that deficiency has been remedied. In 1848, when Mr. Knott painted him, Norman MacLeod was still minister at Dalkeith. Three years were to pass before he went to the Barony, with which his career is inseparably associated, and it was not until twelve years later that "Good Words" was founded and made his name almost as well known south of the Tweed as it was at home; but MacLeod was already a man of mark, and while the face which looks out from this picture is younger than those with which one is familiar, it bears the impress of a strong and genial personality and is eminently characteristic. Moreover, it is a pleasing and refined example of cabinet portraiture. The other additions to the gallery have been made by purchase. They include the Right Hon. Sir George Murray, well known as a soldier and a politician — he was quartermaster-general during almost the whole of the Peninsular War and Secretary for the Colonies, and filled other important offices — a cabinet-sized version of H. W. Pickersgill's life-size full-length in the County Buildings, Perth; Sir Charles Colville, one of Wellington's favourite brigadiers, and later Commander-in-Chief at Bombay, in a crayon drawing by Alexander Blaikley, a Glasgow-born artist whose work was in considerable request in Mid-Victorian days; and Sir James Murray (Pultenay), who acted as adjutant-general in Flanders to the Duke of York, was second in command under Sir Ralph Abercromby in 1800 and War Minister in the Greville administration, in a rather quaint and pleasing little oil-picture, which, from an inscription, must have been painted about 1793-94, and just before he married the Baroness Bath and added her name to his own. The remaining two acquisitions are pieces of sculpture. One is a bronze of the relief modelled from life in 1875 by Sir J. E. Boehm for the gold medallion presented to Carlyle on his eightieth birthday by friends and admirers in Edinburgh. It was issued as a medal, engraved by G. Morgan, but it is very rare in this larger size, which gives a much more subtle rendering of the rugged face. An authentic and interesting bust of Allan Ramsay, the portrait-painter, completes the list. Modelled in Rome, probably during Ramsay's last visit (*circa* 1780), by an artist of the name of J. M. E. Foye, of whom little is now known, it is in the pseudo-classic taste of its time, with loose and meaningless drapery thrown round the bare shoulders, but the head is admirably modelled and the expression full of character. It is a most appropriate addition to a collection of Scottish portraits, for to Allan Ramsay *fils* we owe representations of many of the most notable Scots of the eighteenth century.

THE NATIONAL PORTRAIT GALLERY.

THE following are the latest additions to the National Portrait Gallery :—

In accordance with the will of the late Mr. G. F. Watts, R.A., the Trustees have received from his executors the following two portraits, viz. :—

A portrait (unfinished) of Mr. Watts painted by himself, and a portrait (also unfinished) of the Right Hon. Cecil John Rhodes, which was commenced by Mr. Watts during Mr. Rhodes's last visit to England, but never completed owing to Mr. Rhodes's sudden return to South Africa.

The Trustees have also received by bequest from the late Georgiana, Baroness Bloomfield, a portrait of John Arthur Douglas, second Baron Bloomfield, G.C.B., 1802-79, diplomatist, painted in 1820 by Sir Thomas Lawrence, P.R.A., and a small portrait painted on copper stated to represent Prince Charles Edward Stuart; by bequest from the late Lady Diana de Vere Huddleston, a fine portrait of the late Sir John Walter Huddleston, 1815-90, last Baron of the Exchequer, painted in 1888 by Frank Holl, R.A. ; and by bequest from the late Dr. William Guy, a portrait of Edmund Lodge, 1756-1839, author of "Portraits of Illustrious Personages," painted by Lemuel F. Abbott.

The Trustees have also accepted as a gift from Mr. Francis Draper a small terra-cotta bust of the Rev. Rowland Hill, 1744-1833, the well-known divine and preacher at the Surrey Chapel.

The following portraits have been purchased by the Trustees :—Joanna Southcott, 1750-1814, fanatic and religious impostor, a pencil drawing by William Sharp; Augustus Welby Northmore Pugin, 1812-52, the Gothic architect, painter uncertain ; David Cox, 1783-1852, eminent landscape-painter, painted in 1835 by William Radclyffe, junior ; Marian Evans (Mrs. J. W. Cross), better known as "George Eliot," 1819-80, a small portrait in oils painted by the late M. d'Albert Durade, being a replica of one painted by him during the residence of Miss Evans in his house at Geneva in the year 1849 ; Tiberius Cavallo, F.R.S., 1749-1809, one of the earliest professors and lecturers on electrical science, a small portrait painted possibly by J. Zoffany, R.A. ; Captain James Cook, R.N., 1728-79, the famous circumnavigator, painted in 1766 by an unknown artist for the Governor of Newfoundland ; James Smith, 1775-1839, joint author of "The Rejected Addresses," painted by James Lonsdale.

The Trustees have also purchased a death-mask in plaster of Alfred Stevens, 1818-75, the well-known sculptor, taken immediately after death by Mr. Reuben Townroe.

These new acquisitions will be placed on exhibition in the galleries as soon as circumstances permit.

CAVES IN NEW SOUTH WALES.

THE caves in New South Wales would appear to be likely to be conducted without cost to the Government, as a large number of visitors pay for admission to them. A new edition of the Guide Book to the Jenolan Caves is being prepared which will include illustrations of the "River Cave." After running successfully for thirteen years the Leffel wheel, used in connection with the electric light supply, has been thoroughly repaired. A new ope ing has been discovered which is called "The Temple Baal," and another known as the Orient Cave. These a surpassingly beautiful, and are extensive branches of t Lucas Cave, leading from the "River" series of caver Temporary means of access to the new caves are being rapid provided. This includes a punt, which has been placed that part of the underground waterway named "The Sty Permanent stairways will be added from time to time. T admission to the caves was increased to 2*s.* for a first vi and 1*s.* for any subsequent visit by each person. T rainbow and salmon trout placed in the Jenolan river a doing well, and may soon be expected to give excelle sport.

At the Wellington Caves the entrance to a recently di covered cave has been enlarged, and preparations made render it accessible to visitors. The passages leading fro the eastern entrance to the Wollondilly Cave have bee opened up. It is now possible to traverse the extensi and beautiful series of caverns comprised in what is know as the Wollondilly Cave, from end to end, without retraci one's footsteps.

The wire-netting in the various caves at Yarrangobill has been re-strained and added to. The pathway whic ran through the splendid "Flower Garden" has been r modelled and has been constructed round the garden, an is an important improvement. Other pathways have bee constructed, and attention has also been paid to the surfa tracks to the caves.

Exclusive of the salaries of permanent officers, the su of 1,063*l.* 17*s.* 4*d.* was expended in the maintenance of a caves during the financial year 1903-4.

GENERAL.

Professor Albert Kornek, the German painter, died i Berlin on the 16th inst. in his ninety-third year. H pictures of the chase were once admired.

A Great Ceiling Painting for the Hall of Assembly the University of Vienna is nearly completed. The subje is *The Victory of Light over Darkness*, and the work wa produced under the direction of Professor Match.

The Secretary to the Board of Education says that la year sixteen Royal College of Art scholarships were grante at South Kensington, of which three were awarded t women. The Board, he adds, do not contemplate at prese any reduction of the sum set apart for such scholarships, o any change in the conditions under which they are grante

The Earl of Rosebery has been re-elected president o Bucks Archæological Society. As an outcome of th exhibition recently opened by Lord Rosebery steps are t be taken to establish a permanent county museum a Aylesbury.

The Hambledon Rural District Council has decided t supply the surveyor with a motor car, and to allow him 20 per annum for repairs. There was strong opposition b members of the Council, and the decision was arrived a by the chairman's voting.

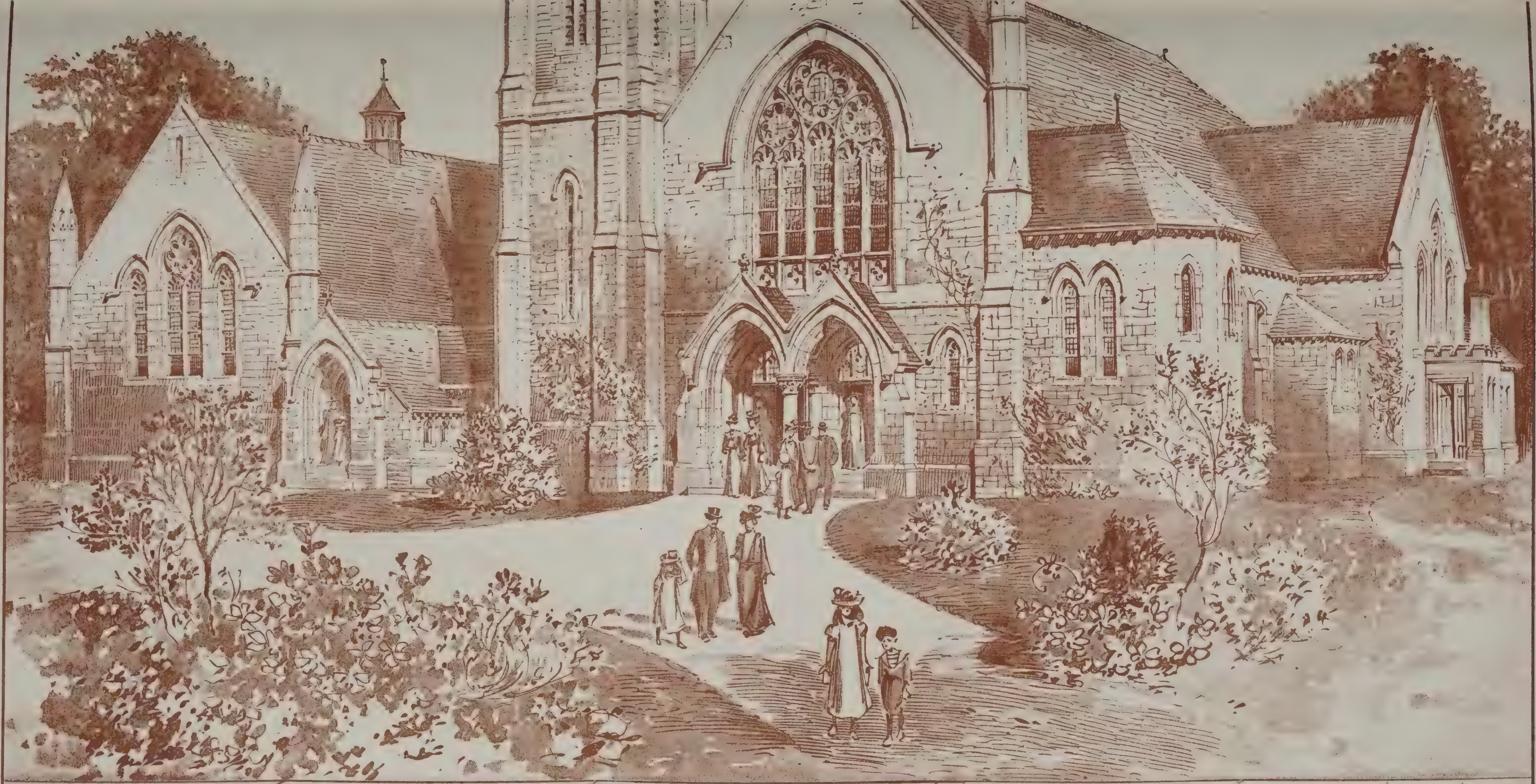
Public Clocks in Vienna are shortly to be worked b wireless telegraphy, according to plans by Professo Reithoffer after the system of Professor Branley.

M. Louis Bonnier will on Monday give a lecture in th Louvre on its sculpture and decoration to the society o amateurs and artists known as "L'Art pour tous."

The Worcestershire Education Committee have approve a recommendation of the general purposes committee t appoint Mr. A. B. Rowe architect and surveyor at a salar of 250*l.*, with an allowance of 50*l.* for travelling expenses subject to an understanding that the supervision of non provided as well as provided schools was included in th duties of the office, but not the preparation of plans for ne schools.

An American Railway Company has assigned to Mis A. E. McCrae, of Chicago, the general supervision of th landscape gardening and architectural remodelling neces sary to beautify the passenger stations on all of its mai and branch lines. A special private car is to be assigne to her use, and she will travel extensively over nin different States.

A Fire occurred on Wednesday at the Government office in course of construction at Westminster. Fortunately th damage was confined to stores and scaffolding.



DESIGN for BAPTIST CHURCH & SCHOOLS WEST-BRIDGFORD JOHN WILLS & SONS ARCHTS DERBY.

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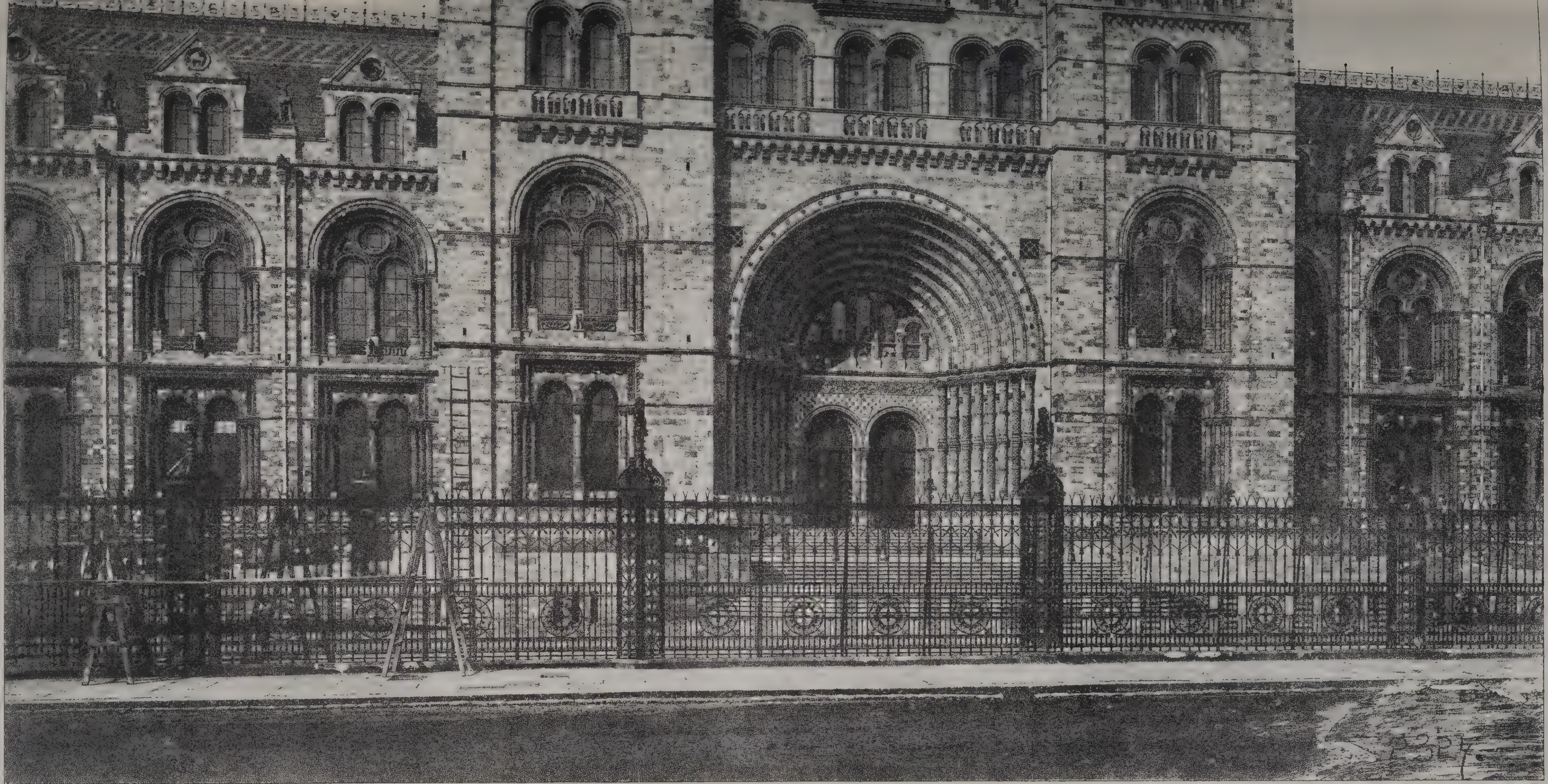

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NATURAL HISTORY MUSEUM, SOUTH KENSINGTON.

The late ALFRED WATERHOUSE, R.A., Architect.

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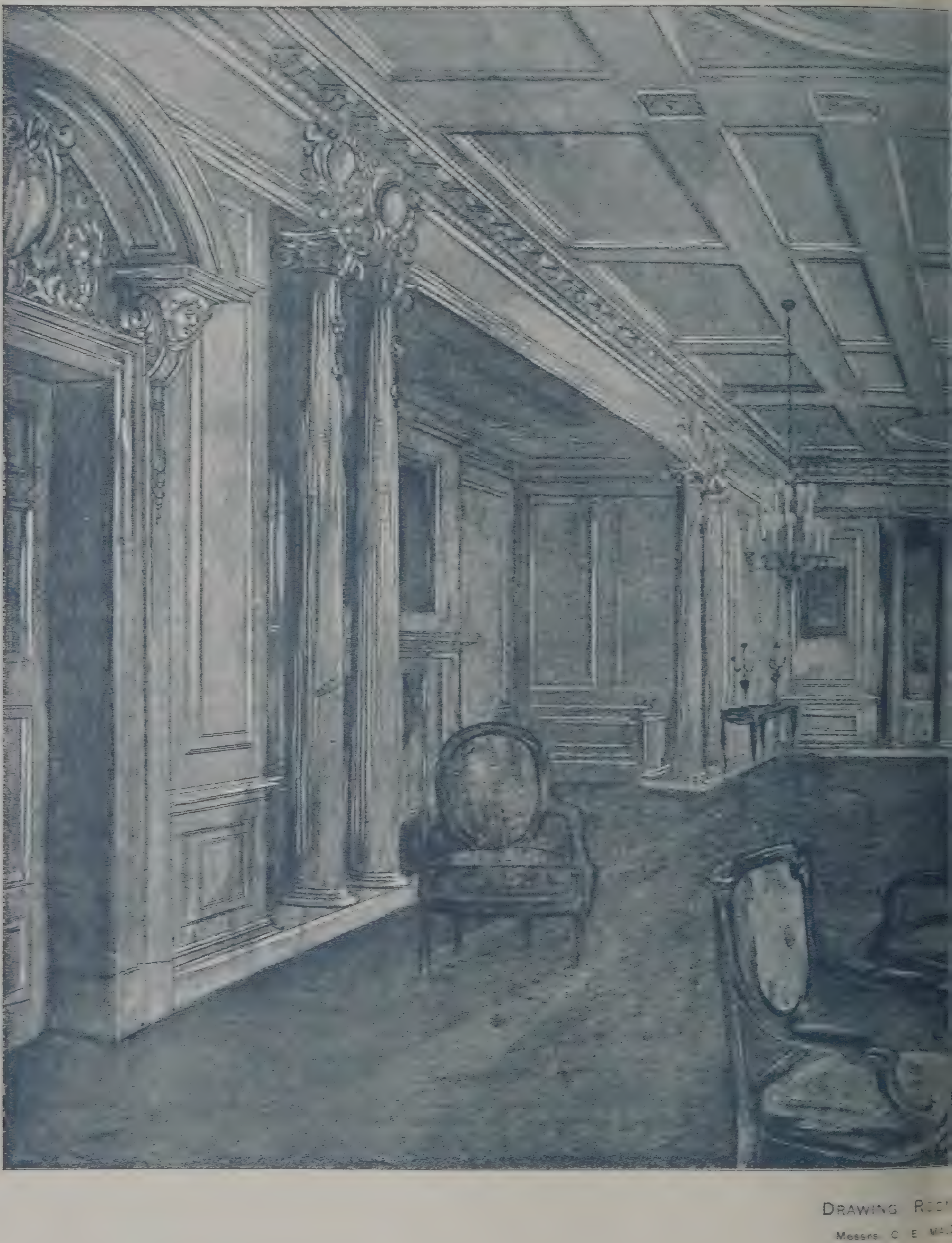

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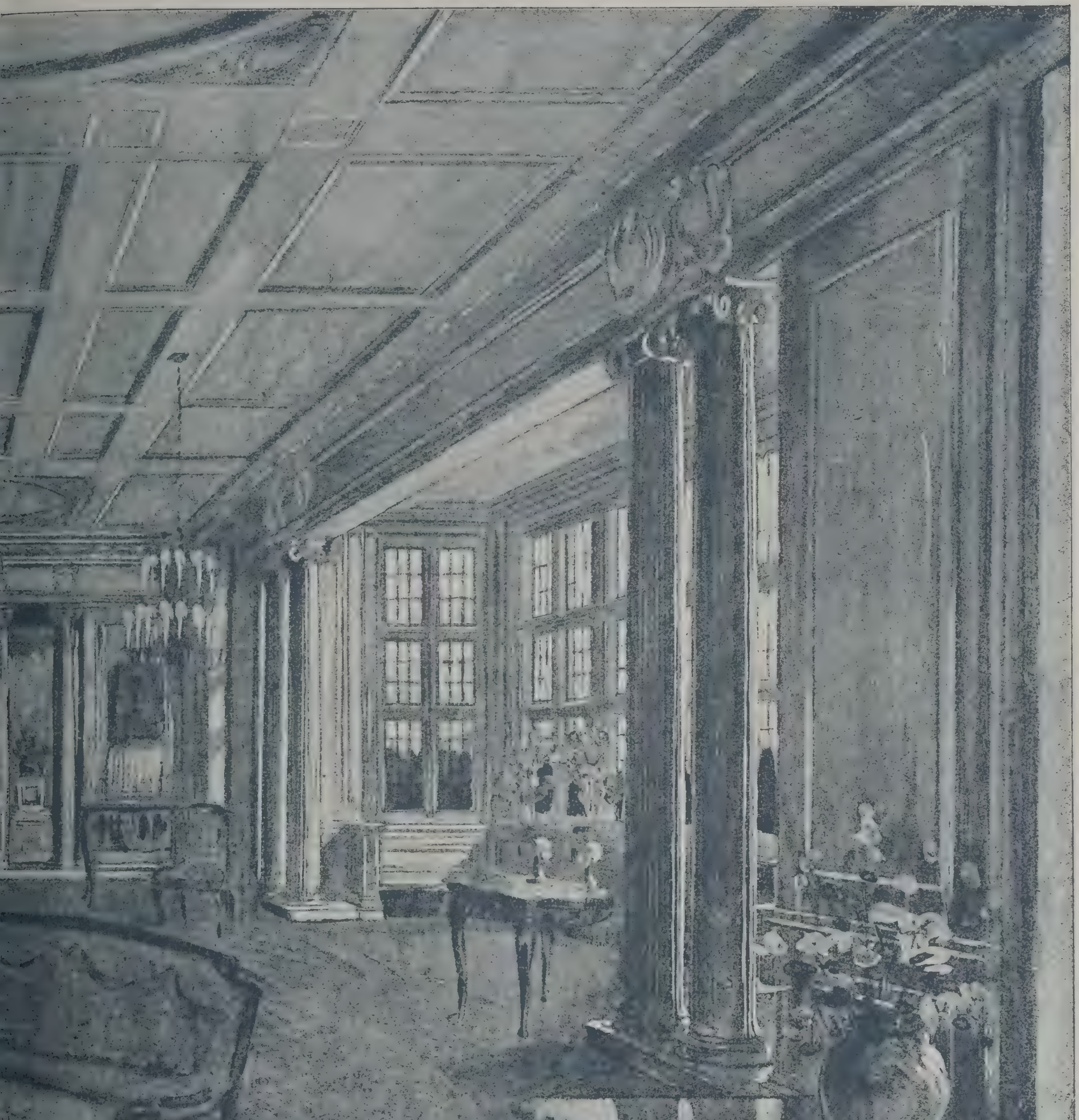

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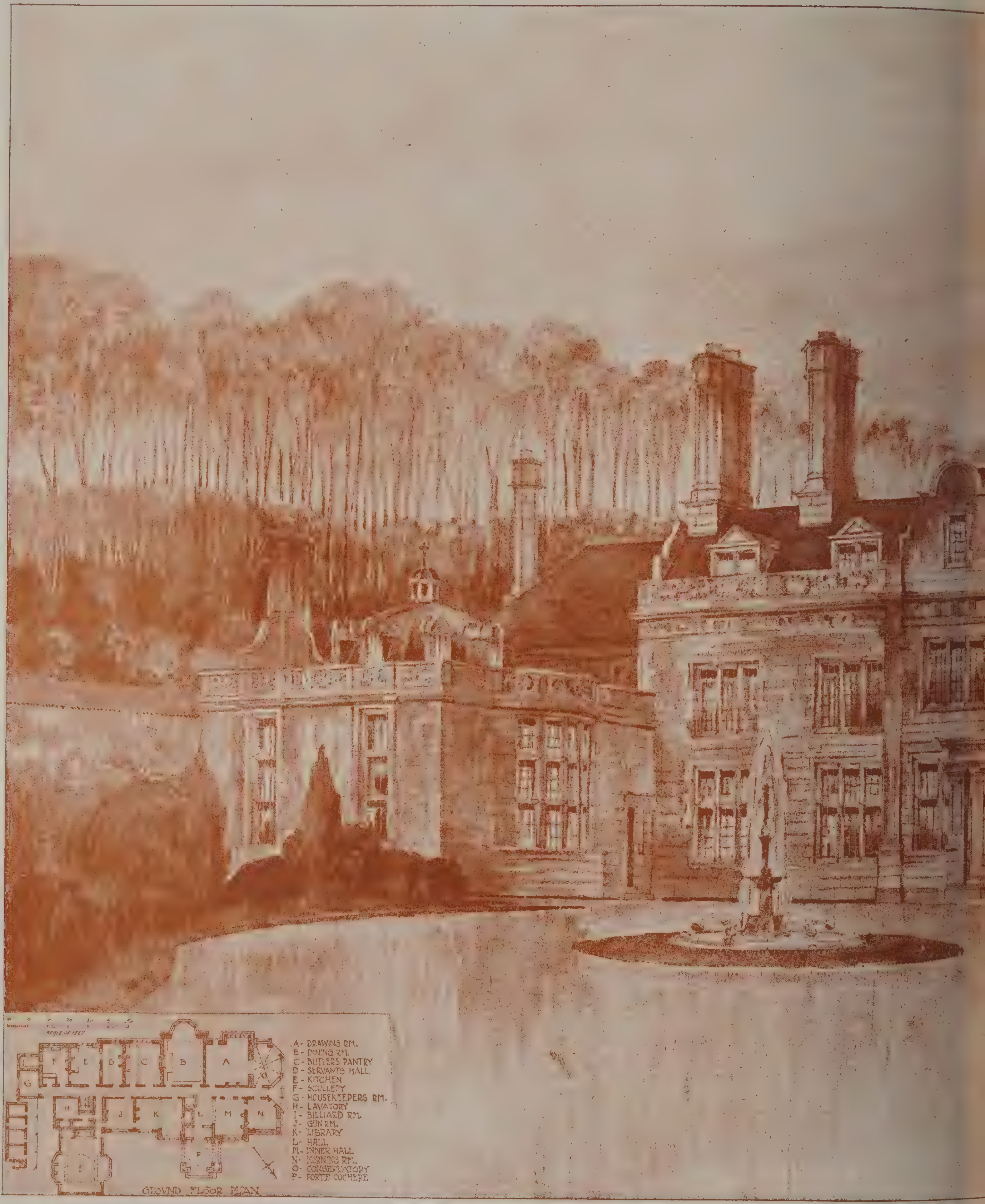

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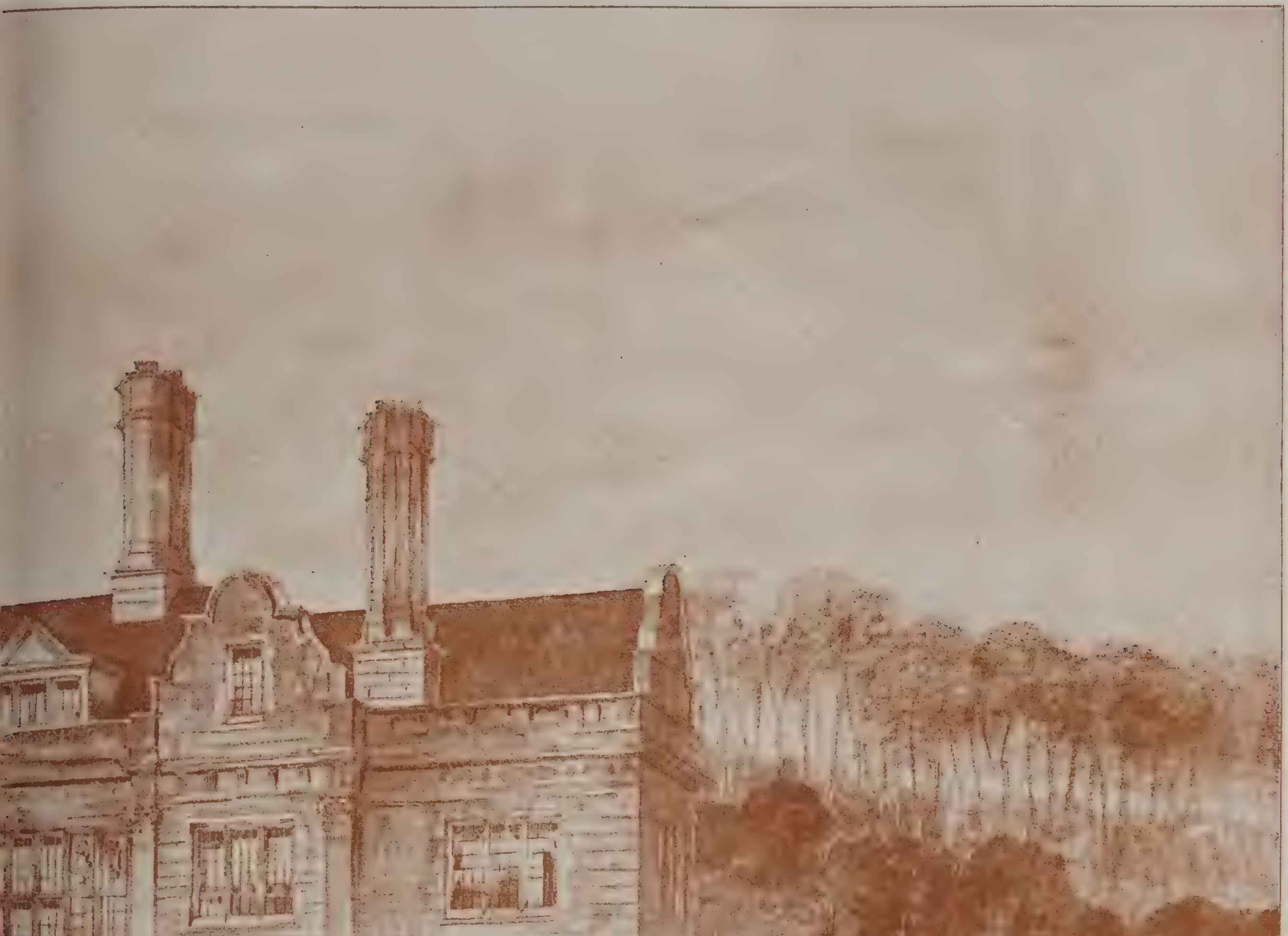

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The Architect.

THE WEEK.

or Park, which is so closely associated with the ly days of Swift, was visited last week by members the Hampshire Field Club. It was the residence of William Temple, who may have been more than a e patron to Swift. When he died the event was orded by Swift in this fashion:—"He died at one ock in the morning on the 27th of January, 1698, with him all that was good and amiable among ."
Temple was buried in Westminster Abbey, but heart was placed in a silver casket beneath a sun- opposite a window where he used to be seated. dial was afterwards removed, and a search was le for the casket, but it had disappeared. A room he mansion is still called "Swift's study," but as the se was enlarged in the eighteenth century it could have been the room in which he devoured books compared himself with the statesmen who visited iple. As Thackeray says:—"Swift sickened, elled, left the service, ate humble pie, and came back in, and so for ten years went on gathering learning, llowing scorn, and submitting with a stealthy rage is fortune." A small house outside the lodge gates loor Park is still known as Stella's Cottage, but the appy woman whose fate was so closely connected Swift's was never likely to have lived there, and ne time it was called "Dean Swift's House."

One of the greatest of Assyrian archæologists died w days ago in Paris. Jules Oppert, although he reached his eightieth year, continued to be as active ver as professor in the Collège de France, where he ht for more than thirty years, and as a member of Academy of Inscriptions. By birth he was a native lamburg, where he was born of Jewish parents in . He studied in Heidelberg, Bonn and Berlin. ead of following the usual routine and becoming a nan professor he went to France, and in his twenty-nd year became a naturalised Frenchman. He took in the archæological expedition to Mesopotamia in , and to him was entrusted the interpretation of the iform inscriptions. He was appointed Professor anscrit, but he was more attracted by Assyrian æology than by any other subject. At one time sculpture alone was supposed to represent Assyria. owing in a great measure to the late savant the rds on stone and clay rival the ancient artists' work, between the two the old empire has been revealed remarkable extent.

Vhen by means of donations from the Baxter y it was arranged to establish a college in lee, the committees acted in a rather original The money at their command, if expended on ilding, would leave no funds to pay professors, for a time at least, it is not expected that further tions will be received. Accordingly they pur-d a whole terrace of small villas in front of which a rather large lawn; partitions were thrown down ve larger rooms, and various other alterations made. Three years ago Mr. J. J. Caird offered y 13,000*l.* for a new building, which was to be as a physical laboratory, and it was suggested t should be erected on the ground in front. The e of Dundee were dissatisfied at the proposal, and ollege Council declined to adopt it. Some adjoining ngs were purchased, and it was decided to erect uildings on the site. Mr. Caird had plans pre-, and offered to increase his gift to 16,000*l.*, but ouncil declined to approve of the plans, and it is rstood Mr. Caird will withdraw his offer. The r has been placed in the hands of Sir Rowand Anderson, and it is hoped that he will be able to devise plans which will satisfy all parties.

Poetry is generally considered to be an art and a great one. Its relations to what is known as fine art have been treated in books on æsthetics. There is no doubt that if there are agreements there are also differences between them. The question has been raised in France in rather a novel way. The architects, the painters, the sculptors, the engravers, the composers of music have each a Prix de Rome. Why should not a similar award be open to the poets? Since M. Dujardin-Beaumetz, a painter, became under-secretary in the Department of Fine Art, he has had to submit to the strangest propositions, and now his influence is sought by the Society of French Poets. There is, of course, the Académie Française available to judge of the works submitted. But would it not be necessary to add an academy of poetry to the Ecole des Beaux-Arts in order to train students for the competition? Heine once said that with such a language as that of Frenchmen poetry can be nothing but *enfantillage*, and no better word need be used to describe the proposals of the Society of Poets.

The architects of Sheffield and the education committee do not appear to be working in concert in a satisfactory way. The committee have reduced the rate of commission, and it was anticipated that plans would not be submitted in competition for a new school at Salmon Pastures. The circumstances of the time are not favourable to a strike, and a great many plans have been sent in. It was discovered by the untrained eyes of the buildings sub-committee that in many of them the conditions laid down have not been complied with. It was therefore proposed that the informal plans should not be sent to the assessor for report, but it was considered that it would be better to leave the responsibility to the assessor. At the same meeting a motion was adopted to the effect that the buildings sub-committee be directed to take into consideration and report on the question of engaging an architect to devote his whole time to the service of the committee. The chairman of the sub-committee was of opinion that they should also take into consideration the creation of an architectural department not, merely for schools, but for the whole of the city works.

In this country we have the advantage of Ordnance bench marks, of which the height is determined in relation to the Ordnance datum of 12 feet 6 inches below Trinity high-water mark. It is therefore easy when sections are required for a railway or other large work to fix a datum line which will be definite. In ordinary cases of sections in towns it is not necessary to recognise the Ordnance datum, for any fixed point would serve to start from. In Philadelphia there is a standard "City datum," which has been adopted for over a century. An Act of 1795 describes it as being "above the highest tide that has been noted in the Delaware River." In 1814 an ordinance was issued that the Mayor and "Regulators" were to "determine on a particular permanent point or mark somewhere near the centre of the city, noting such mark in the proper book of reference, and its height above the general plane." The general plane and the City datum appear to be identical. All such levels have no fixed relation to a national or standard datum, like that of the Ordnance datum in England. The datum of the United States coast and Geodetic Survey is mean tide at Sandy Hook, but the surveyors have never run a line of levels to Philadelphia. It has been deduced from railway and other bench marks that the City datum is 5.5456 feet above the Sandy Hook datum, but an official test is needed before the figures can be accepted as accurate.

BY-LAWS IN MELBOURNE.

THE Colonies are to be excused if they treat British goods as if they came from foreigners, and placed a high import duty upon them. Government in Canada or Australia is expensive, and the cost must be paid in ready money. It is therefore difficult to be generous and at the same time to have a sufficient balance in the local treasury. But, apart from fiscal problems, the Colonies are disposed to regard England with a large amount of reverence. This is seen in the adoption of laws which, to say the least, are inapplicable to the new conditions of life, and especially by-laws relating to construction. Buildings in England rarely collapse, and it is allowable for people at a distance to believe that their endurance is in a great measure owing to official regulations.

At the present time there is an outcry because by-laws appear to be opposed to the interests of those who employ the land as they would a factory. But they are also inimical to other forms of construction. Combinations of concrete and metal, which are employed in most countries with advantage, in England are under such severe restrictions that their use in buildings is only on a limited and costly scale. It may be prudent in a new country to imitate England by having severe by-laws. But it should be remembered that in the Colonies the majority of buildings are only experiments. Melbourne, for example, recalls the old days of squatters by practically ignoring a building line. Sooner or later a change will have to be made. But if the earliest builders had been subjected to rigid rules they might have looked for sites elsewhere, and the city would not be as successful as it is at present. The conduct of Americans with regard to the railways should be considered when new towns are going through the preliminary processes of arrangement. In this country our railways were not merely constructed in the most permanent fashion, but land was purchased at many times its value, and the ablest counsel who could be discovered were employed to wrangle at enormous fees, as if Parliamentary procedure consisted in placing obstacles to public improvements. The fortunes left by those fortunate lawyers, of whom Lord GRIMTHORPE with his millions was the latest instance, exemplify the British manner of legalising works. One result is that very few among the British railways can pay the dividends the unfortunate shareholders anticipated.

The American engineers, on the contrary, realised that their means were limited, and that they could not make colossal experiments like BRUNEL with the Great Western Railway. They laid down lines which would quickly produce a profit, and they left to their successors the task of executing more expensive work when the traffic had grown. A comparison between the old-fashioned and the modern termini in American cities will suggest that it is not prudent to burden a company with expenses which in the future will leave it in the position of the District Railway, the London, Chatham and Dover Railway, and several others in Great Britain.

The same law which affects railways and other similar enterprises relating to communication also prevails in buildings. Since by English law municipal authorities have supreme power over streets and buildings, they should realise the economical principle which is at work in those cases, and in order to have a poor imitation of a continental street should not drive investors in building to bankruptcy. This fact should be remembered by the committee of the Melbourne Corporation now engaged on an investigation of the existing by-laws. It appears they are in the dark about what is required, and the Royal Victorian Institute of Architects are endeavouring to explain what is desirable as well as what should be rejected. According to Mr. ASKEW, one of the vice-presidents, the Act under which the regulations were authorised was a copy of an Act of CHARLES II. which became law a century before COOK, BASS, or FLINDERS visited the great southern island. With true British conservatism it has still to be spected, and, according to Mr. ASKEW, the Act has be ruinous in its effect on Melbourne. In England the L Lords have discovered that most of the judgmen respecting light and air have been misinterpretations the law. In Melbourne the Act operates more severe than in London. A one-storey building in Coll Street cannot be raised because a row of windows in adjoining building overlook it. The Court of Appeal, appears, decided in an action about ancient lights acco ing to the COLLS case. But the decision was revers by the High Court of Australia, and it is, of course, costly matter to have recourse to the House of Lords

A corporation cannot always prevent actions light and air unless by passing by-laws which wo be likely to lead to injustice. In new towns inconvenience can be minimised. But a cert degree of restraint is desirable. An inconvenien which is more general is that arising from by-laws about the thickness of walls. It is suppos that high buildings will be as useful in Melbourne as American cities. The two upper storeys must 14 inches thick and the next two 18 inches. In way the wall of a thirty-storey building would have be about 12 feet in thickness on the ground level. T may be an extreme case, but it suggests the hard-and- system adopted by the Corporation. Again, in dwelli a Mansard roof is allowed. But for buildings of "warehouse" class the roof must not be pitched a greater angle than 40 degs. The building surveyor carr out his duty fairly, but he dare not go beyond the by-la There are official referees, but they also are fette in the same way, and apparently guided by the build surveyor's report. One of the members, Mr. HEN SON, advocated that the thickness of walls should proportional to their length and height, and not as present, proportional to the cubical contents of building. If a building is enlarged the thickness wall must be increased, even though it has not m work to do. Buildings of the warehouse class excee 200,000 cubic feet are penalised by an additional th ness of 4½ inches in all walls, although extra p would serve as well and would be more economi Another member, Mr. USSHER, advised that modi tions of the building regulations in New York, Ph delphia, St. Louis and Chicago should be adopted, he did not approve of engineering construction buildings so long as any man who called himsel architect could attempt to do the work. Steel and were the cheapest materials, but the men who empl them should have their knowledge tested. The Presi likewise expressed preference for steel construct and pointed out that by the by-laws each building have a certain amount of brickwork, but it is indiffe in what part of the building the brickwork was pla It might be at the bottom or the top, or even in cornice, so long as it was somewhere.

We suppose many other objections can be ra against the operation of the existing by-laws, and w the combined suggestions of the members of Victorian Institute are presented they may receive consideration. It is always extraordinary why mu pal authorities should hesitate about adopting the ad of men who have the deepest interest in the stabili buildings. If architects thought only of their interests they would prefer ordinances by which w should be increased to a thickness of 12 feet, for so as they are paid by commission all excess in the us material brings profit to them. They know, howe that all buildings, and especially those for comme purposes, must be economical, and the income whi likely to be derived from a building cannot be negle from the architect's purview in all stages of his plan When, therefore, we find that the Melbourne archit in spite of their reverence for King CHARLES II. opposing the venerable by-laws, the Corporation sh be assured that a change is necessary if Melbourne prosper.

AN ACADEMY RECORD.*

INCE 1769 all British artists can be divided into two classes, viz. exhibitors at the Royal Academy ıd non-exhibitors. Among the latter were and are any capable architects, painters and sculptors. But ıere is no doubt that the men who on principle avoided nding works to the Academy have been very few. he majority of the ablest artists we have had in reat Britain were glad to have their designs, paintgs or statues shown to the public in the rooms at Pall all, Somerset House, Trafalgar Square or Piccadilly. r. Algernon Graves's "Dictionary of Contributors" ıould therefore be considered as the Libro d'Oro of ritish art. However humble may have been his work, is creditable for an artist to have his name menıned in the pages, and his children and relations ould be proud of his being inscribed in such a national ork.

In glancing over the pages of the second volume ıd confining ourselves to the works of deceased chitects, we meet with much that is interesting. One the most important artists was Sir William hambers. His name must always be associated with e early history of the Academy, for not only was he ıe of the foundation members and the first of the chitects who served as treasurers, but it was in a eat measure through his tact that the Academy was ought into existence. The catalogues show that hambers contributed only products of his own eation. He had doubtless made drawings of eign and ancient works, but it was as an chitect and not as a draughtsman that he wished to ract the attention of visitors. Some of his connporaries were evidently of opinion that they could e no better proof of good taste than by producing a awing of a Greek or Roman ruin. That practice is t entirely abandoned. Chambers was described as omptroller-General of the Works to the King, architect the Queen and to Her Royal Highness the Princess wager of Wales, and treasurer of the Royal ademy." To the first exhibition in 1769 he conbuted four drawings, viz. "Elevation and Plan of a ınting Casine, belonging to the Earl of Charlemont, in land;" "Ceiling of the Duchess of Buccleuch's Dressingom in Grosvenor Square;" "Ceiling of the Countess wer's Dressing-room at Whitehall;" and "Elevation one of the Flanks of a Royal Palace." He ıibited regularly from 1769 to 1777, his last ng "A Bridge at Woburn Abbey." Although he lived til 1796 he sent no further drawings. This may be plained by his appointment in 1775 as architect for merset House.

Another Academician who, under happier circumnces, might have produced a building that would al Somerset House, but who unfortunately obtained more than a few commissions, was Charles Robert ckerell. In 1818 he first appeared as an exhibitor h a sketch of a kiosque in Albania, and a drawing wing a restoration of the Temple of Jupiter Panhelius at Ægina, &c. In 1819 he presented ideas of toration of Roman buildings, and in 1820 a restoraı of the Parthenon. In 1821 he was represented "The Philosophical Institution" in Bristol, and in 2 by a design for a chapel. In 1824 he reted to antiquity, and in 1829 contributed the ollege of St. David at Llanepeter, Cardiganshire, " Then he returned to restorations of Classic ldings. In 1832 he exhibited designs for the estminster Life and British Fire Office" in the and; in 1841 he had "A Front of a Public Building," l in 1846 the design for the sculpture for the liment of St. George's Hall, Liverpool. In 1849 he wed "The Professor's Dream; a Synopsis of the Principal Architectural Monuments, &c.," which should have been his final work, for it suggested his life's history. Cockerell was a dreamer, for whom the past was of more importance than the present. But in 1858 he had a study of the Mausoleum at Halicarnassus, which was an extra final dream. It might be imagined that Cockerell's early travels made him too fastidious for the business of life as practised in England. His father, Samuel Pepys Cockerell, does not appear to have enjoyed similar advantages. But between 1785 and 1803 he exhibited a large number of drawings for works entrusted to him, including town and country residences, churches, &c. Frederick Pepys Cockerell, the third representative of the family, began to exhibit in 1854. He also for a time followed in the parental steps, and represented only Classic buildings. In 1866 he had drawings of the front of the Freemasons' Hall, Great Queen Street, and in 1868 of Sir Robert Cholmeley's School, Highgate, and these were followed by drawings of mansions until 1877.

Another worthy whose devotion to architecture, and especially to Gothic, was conspicuous in the eighteenth century was John Carter, who is described as a painter. He was the son of an architectural sculptor and was born in 1748. About 1763 his father died and the youth had to earn his living. He worked as a draughtsman for Dixon, a surveyor and mason, and for Henry Holland, the architect. His skill in representation gained him supporters, and his earliest book was "Specimens of Drawing and Painting." The first drawing he sent to the Academy was in 1781, viz. "A View of the West Front of Crowland Abbey," and drawings by him were accepted until 1794. The west window of Exeter Cathedral was executed by Coad from Carter's designs. A contemporary was Francis Carter, whose design for a nobleman's country mansion was in the exhibition of 1788.

The Academy in its early days appeared to remember that formerly bridges were the work of architects. A wooden bridge, 110 feet span over the river Don in Aberdeenshire, was shown by J. Chisholme in 1803; next year, besides a design for a mansion, he had a design for a line of battleship to mount 110 guns on two decks. W. Tierney Clark exhibited a view of the suspension bridge of Hammersmith in 1826, and several others on the same principle followed. Drawings of railway viaducts by George Dodgson were exhibited 1830-40. Ralph Dodd sent numerous designs for bridges, and in 1799 sections of an intended tunnel under the Thames, which was several years before Brunel's project was announced. A drawing of his in the exhibition of 1817 suggests the influence the continental war exercised not only on painters and sculptors, but on engineers. It was described as follows:—"Design for the iron intended East London or Bridge of Trafalgar, from St. Paul's, Shadwell, Middlesex, over the river Thames to St. Mary, Rotherhithe, Surrey, of sufficient altitude for shipping to sail beneath. Designed on the principle of tenacity or tension, the three apertures over the river to be 320 feet chord each, the incline of plane on each shore 1,200 feet; the various niches of the bridge meant for the reception of bronze statues of those naval heroes who have most distinguished themselves in the service of their country; and in the panels beneath them metal bas-reliefs of our principal naval engagements."

The late Ewan Christian began exhibiting in 1833 with a "Design for a Mausoleum," a subject which seemed to be a favourite among young architects. In 1835 he had a new church in Kendal, and other examples of his work appeared until 1879. When the late George Somers Clarke exhibited a design for a museum in 1842 he was employed in the architect's office in the Houses of Parliament. Among his works were Cowley Manor, the Seamen's Orphan Asylum, Wyfold Court, the Manor House, Sidmouth, &c. Henry Clutton was an exhibitor between 1845 and 1861. It

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[*] *The Royal Academy of Arts.* A Complete Dictionary of tributors and their Work from its foundation in 1769 to 1904. Algernon Graves, F.S.A. Vol. II.: Carroll to Dyer. ıdon: Henry Graves & Co., Ltd., and G. Bell & Sons.)

is remarkable that no view of the Lille Cathedral was contributed by him or by W. Burges. One of the most important drawings in the exhibition of 1858 was the design, by H. E. Coe, for the new Foreign Office, Whitehall, which gained the first prize in the competition. John Dwyer was another of the successful competitors; but eventually the building was carried out by Sir Gilbert Scott. Between 1842 and 1849 five drawings by L. W. Collman were exhibited. One was a decorated corridor, another the entrance hall of the British Museum, and a third the ceiling in a drawing-room of the Oriental Club. John Coney, whose etchings of continental cathedrals and other buildings are well known, sent a view of Lambeth Palace in 1805.

The question must often arise in looking over the pages by what means some of the exhibitors were able to obtain an income. Were there people generous enough to buy a design of a Temple to Calliope or a Temple to Solitude? Or when they saw a design for a nobleman's villa, was there a rush of peers to secure the treasure? The speculative drawings of that kind are numerous. Sometimes an architect will be found to send in one example, and his name never appears again in the catalogues. Can we suppose he received sufficient commissions to make him independent, or did he in despair abandon the art? Puzzles of this kind are continually arising. The two Cottinghams seem to have gained their commissions through their drawings. The drawing of "Part of Mr. Cottingham's studio of English Antiquities," which was produced in 1832, was enough to suggest an enthusiast. Sometimes they turned architectural drawings into pictures. "The High Altar, St. Alban's Abbey" served as the background of a scene showing the knighting of the Prince after the Battle of St. Albans, and the abbey of St. Edmundsbury became a picture of a royal visit to the shrine.

As George Dance, the City architect who designed the Mansion House, died in 1768, he could not be an exhibitor. But his son, successor and namesake, who was the architect of Newgate and the front of the Guildhall, was one of the early members of the Academy. In 1770 there was a plan and section of a royal gallery for sculpture by him. In 1771 the garden front of a house for a gentleman in the country, and in 1785 a design for a mausoleum which, as we have said, was a stock subject in those days. But when he reappeared as an exhibitor in 1795 it was as a portrait-painter. They were, we believe, mostly chalk drawings. A design for the improvement of the "Legal Quays" between London Bridge and the Tower appeared in 1799, and his last work, a portrait, was shown in 1800. George Dance was appointed professor of architecture in 1798, but he could not be taken as a model by his successors. He died in 1805.

John Peter Deering was originally known as John Peter Gandy, and exhibited in 1806 a design entitled "Leading to the Apartments of the Dead." He travelled in Greece, and on his return he and W. Wilkins designed a Waterloo tower which was to be 280 feet high. He was lucky in acquiring an estate and changed his name to Deering. He contributed in 1828 an "Elevation of a Nobleman's House in Park Lane;" in 1829, "The Entrance Front of Broom Hall;" in 1830, "The Strand Front of Exeter Hall;" in 1831 and 1832, "Views of Shrubland Park," and also in 1832, "A New Lodge at Burghley," as well as two views in Aphrodeisias in Caria. John Dobson, who gained renown in Newcastle-on-Tyne, contributed a view of Seaton Delaval House in 1818; he did not again exhibit until 1850, when he sent views of the Central Railway Station, Newcastle-on-Tyne, a work which afterwards gained him a médaille d'honneur in Paris. Thomas Leverton Donaldson displayed in 1854 "An Architect's Dream, or Sketch for Opening the Crypt of St. Paul's Cathedral, exposing Sarcophagi of Nelson and Wellington." It was his last contribution. He had been an exhibitor since 1816, but the majority of his designs resembled the Dream. A nation museum, a Burns's monument, a triumphal entry into city, a Temple of Victory, a monument to the Duke York, a tomb for a noble family and other similar pr jects suggest that an architect who is thoroughl practical and is, moreover, a scholar, cannot comp clients to give him commissions.

A competition of 1769 is recalled by Willia Donn's two designs for the fronts of the Royal Exchang in Dublin, which were exhibited in 1770. Jam Gandon, the earliest gold medallist, won second prize Thomas Cooley, whose name is not mentioned in an of the Academy catalogues, obtained first prize and th commission. The building has gained some notoriet as the City Hall. Donn's name is now forgotten. A architect who was an occasional exhibitor from 1817 1853 was W. J. Donthorne. One of his projects wa a new street leading from Buckingham Palace to Wes minster Abbey.

Mr. Algernon Graves's work will serve as a guide the history of art in this country since the Academ was founded. We can judge from it the various influence which affected imagination. At one time it was wa and we learn of architectural and sculptural memoria as well as of paintings, which were expected to exercis the same office in a more vivid way. Again, it may b a literary influence to which painters and sculptor readily submit. The number of works which wer inspired by Scott's novels is amazing. People no are surprised at the quantity of photos of actors an actresses. But early in the past century some painter devoted themselves to theatrical portraits, and probabl they were as much appreciated as any other class work. In many ways the volumes are invaluable, an are unique in the literature of British art.

CANALETTO'S VIEWS OF VENICE.—VI.

THE changes in Venice are not confined to building A great many names which were connected wi them have been supplanted by others. The Corna Palace is now known generally as the Mocenigo Palac It has a poetic interest, for Byron lived in it. He d parted from England, where, in the course of a year, had suffered much. In that time he had separated fro his wife and was deep in debt. Eight or nine tim bailiffs had entered his house, and it was only his ra which saved him from imprisonment. After travelli along the Rhine and through the Alps he settled Venice, for he imagined there was resemblance betwe the fate of the city and his own downfall. In letter to his publisher he wrote:—"Venice pleas me as much as I expected, and I expected much. It one of those places which I know before I see them, a has always haunted me most after the East. I like th gloomy gaiety of its gondolas and the silence of i canals. I do not even dislike the evident dreariness the city, though I regret the singularity of its vanishe costume." For a time he lodged in a merchant's hous But afterwards he hired a part of the palace on t Grand Canal where, as Moore says, "he commenced kind of life destructive to his physical energies a degrading to those of the mind." Afterwards he liv in Ravenna and at Pisa. He anticipated that he wou become a second Voltaire and a lawgiver to Europ His first attempts were not successful, and wearied life he seized the opportunity to perform somethi worthy of his genius by aiding the Greeks.

Both Sansovino and Scamozzo are credited wi having shares in the erection of the palace. Near it the Palazzo Contarini and the Garzoni Palace. On t opposite side of the Canal are the Pisani, Tiepolo a Persico palaces. The great church of Santa Mar della Salute appears in the distance on the sa side.

View of the Grand Canal from the Palace of Cornaro to ye Custom House 6

ARCHITECTURE IN MELBOURNE.

IE following presidential address was delivered by Mr. C. A. D'Ebro, A.M.I.C.E., at the annual meeting ie Royal Victorian Institute of Architects in Mel- ne:—In thanking you for the honour you have rred in electing me to the position of President of the ute for this year, I should like to address you on a few e subjects which will, I trust, be considered by the cil of the Institute, and, with their assistance and the ort of all the members, be dealt with in such a pro- ive manner as to raise the status of the profession, ve the class of work entrusted to us, and thus benefit who are our clients in a manner which will com- te them for their trust.

ur professional services are in many cases, I am , looked upon as an unnecessary expense, more ularly as regards the cheaper class of residential ngs. This is due to the advent of the speculative , who builds more with the view of disposing of the when built than to substantial construction. It is tly evident that in this class of work, as a rule, an ive if meretricious elevation, and large rooms with fittings, has weight with uneducated people, while commodation as regards the domestic working of a is cut down to the lowest point. As regards cheap- f construction, this can be arranged by an architect l as a builder; but no architect should, without pro- e connected with the false economies practised, which ly result in complaints later on, which reflect on him, not affect the man who, having sold a house, is no responsible.

o not think there is any profession or employment causes a greater strain on the mind than ours if a ntious interest is taken in the work. It is not only ign, but there is a constant anxiety from the start as the details will work out. I do not mean the archi- l details of ornament so much as the general suit- of all parts when completed. It is so easy to find fault with these matters, and clients in domestic work are frequently more annoyed at trivial deficiencies which may be attributed to temporary defects, such as a tap washer, than to large errors of design.

All this worry is more easily borne when there is a larger field of work, as I find the larger the building the smaller the proportion of anxiety (this may be caused by the compensating larger commission).

An architect's progress depends almost entirely on the advancement of the country he is practising in, and unfortunately it does not matter how capable or experienced he is, his position cannot be forced. Of course, some men will have a preponderance of work over others, and it is difficult to define the qualifications necessary for our young members to copy. An architect not only has to have artistic feeling, which no amount of study will give him, but which will come out when he gets the opportunity of putting his designs in execution, but he has to have a general knowledge of business and capacity for dealing with men as well as inanimate materials. He is, or should be, not only the master mind to plan the scheme, and have in his own inner consciousness what is going to be the ultimate result, not merely what it looks on a flashy coloured perspective or elevation, got up to attract a hoped-for client. He is also employed to see that the client gets full value for his money, and the fair carrying out of the contract which he has entered into with the builder. I do not think it is the duty of the architect to so twist the intentions of his plans and specifications as to get more detail or value out of the builder than was indicated or understood. It is to our own interest and that of the client that all documents should be as full of explanation as possible, and the expense of doing this is more than compensated for by the closeness of tenders and cheapness of the work. Builders are only human, and soon find out these points and tender accordingly. The delays in deciding points and worrying and theoretical perfection asked for, which, I am informed, are connected with works under public departments, possibly cause the enhanced cost of such buildings, apart from equal quality, and I hope design, if carried out by private practitioners.

With the growth of a young country like ours an architect cannot devote himself to one branch of the profession; he must be prepared to take all classes of work, and take them in the hope of making them a success. He must keep himself in touch with improvements of construction, and the modern tendency is towards more of an engineering character. Of course, this necessitates dependence to some extent on technical practice, knowledge of which is only gained in a different school, but the architect should not be ignorant of the general connection between the sister professions, and it is difficult in these days to separate them. In the case of manufacturing projects, while the architectural features are simple, a man must, to make a success of the scheme, know how the establishment is to be worked and how the plant is to be distributed to the greatest advantage, although the design of such a plant is beyond his duty.

In the training of an architect I am strongly of opinion that it is absolutely essential that a youth should go through the routine as pupil in an office, and in an office of standing it is utterly impossible that class education can be given. The young architect must improve himself by reading up those branches which are not actually being carried out in the office, while the literary education and improvement in draughtsmanship must be sought for by attendance at the various classes which are carried on at the university and Working Men's College. The recognition of these classes has been considered by the Council of the Institute, and I feel that still further recognition of their usefulness will be made.

I would impress on all young members of the profession the necessity of seeing work carried out, and while we cannot all be practical carpenters, masons or plasterers, still we must have defined views of what is good work. Young men should never be too professional to take advice from skilled workmen on these points, if given in the proper spirit.

As regards the men who have to carry out our ideas, the restriction of apprenticeships to various trades has necessitated the training of young mechanics in classes, and splendid work is being done at the Working Men's College, but I am afraid that the actual wear and tear of apprenticeship will have to be taken at the other end of their employment or practical work, as it will be found different to the routine of the technical school, and I trust that it will be impressed on the members of classes in connection with the building trades that it is not only technical skill in their own branch that is wanted, but an interest in other branches, so that they may work in conjunction to attain a completed and harmonious whole.

I trust that in the coming year I may, in conjunction with your Council, be instrumental in getting some progress made in urging the Board of Public Health to devote some time to the preparation of rules and regulations for various classes of work, which can be taken as fairly complete. At the present time architects have to work from various leaflets and reports, with the result that a great part of their work is wasted, owing to new regulations or opinions on the part of the advisory officers necessitating a great amount of correspondence.

Complaints are also frequent as to stringency of inspection, &c., when sewerage works are carried out by the architect, as compared with the Board of Works' own officers and servants. Personally, I have no complaint against the Board, as I find that by a fair and reasonable statement of the various questions in dispute it is possible to get ready attention, and there is no doubt that they carry out their work by the employment of good workmen, who have no object in slumming.

One of the questions which will, I hope, be dealt with satisfactorily by the Council of the Institute will be such amendment of the Building Act as will recognise modern methods of construction, and allow for the introduction of armoured concrete or steel-framed buildings. I am afraid that the progress of the city will not be so great as to necessitate very high buildings for some time, as we have plenty of room to allow expansion in a horizontal direction, but it will be well, while on the question of amendment, to embody all these points.

There are many subjects, such as competitions, secret commissions and the unity of the profession in various States which will I trust receive attention, but I must at present leave these. Thanking you for your attention, I beg to conclude.

FUNERAL OF MR. WATERHOUSE.

ON Monday the funeral of the late Mr. Waterhouse, R.A took place in the churchyard of Yattendon. It was the simplest character; the coffin was borne on a hand-bi by the estate workmen to the parish church, about half mile distant. Mrs. Waterhouse was unable to attend, a Mr. and Mrs. Robert Bridges (son-in-law and daughter) a abroad. Among the members of the family and othe present were:—Mr. and Mrs. Paul Waterhouse, Mi Waterhouse, Mr. Amyas Waterhouse, Mr. Michael Wate house, Mr. Edwin Waterhouse, Mrs. Edwin Waterhou Miss Waterhouse, Sir Edward and Lady Fry, Mr. G. Re mayne, Mr. Thomas Hodgkin and Miss Hodgkin, M Eliot Hodgkin, Mr. Howard Hodgkin and Mrs. Hodgk Miss Hodgkin, Miss A. M. Hodgkin, Mr. Wils Crewdson, Mr. Crewdson Waterhouse, Mr. Leonard Re mayne, Mr. Paul Bevan, Mr. Wilfred Hardcastle, t Rev. J. Forrest, past and present members of M Waterhouse's architectural staff, Professor Elsey Smith a Mr. Driver (representing the Architectural Association), M Alexander Graham, Mr. G. Northover and Mr. J. C. Tan (representing the Royal Institute of British Architects), Rev. Canon Beeching and the Rev. H. Bowden Sm (former rectors of Yattendon), Sir W. Cameron Gull a the Hon. Lady Gull, Mr. Acland, K.C., Mr. George Willi Palmer, the Rev. George Floyd, the Rev. A. Standidge, Rev. E. H. Horne, the Rev. H. Lowsley, Mr. G. de Vi Dr. Breach, the Mayor of Newbury, Mr. Richardson Eva Mr. Stable, Mr. J. C. Inglis, Mr. Thomas W. Cutler, Thomas Haigh, Mr. T. O. Belshaw, Mr. W. H. Burke, W. Brindley, Mr. F. W. Pomeroy, Mr. W. G. B. Lev Mr. A. Whitehead, Mr. W. Windsor, Mr. James Gibbo Mr. W. Woodsend, Mr. Gelson, Mr. Thomas Streeter, Mr Neeve, Mr. Tom Floyd, Mr. F. C. Fidler and the househ servants. The interment took place in a plain eart grave. Floral wreaths were sent by the members of family, Sir Aston and Lady Webb and others.

THE "LIBERALIS STONE" AT YARROW

A CORRESPONDENT of the *Scotsman* writes:—"M be permitted through your columns to put in a p for the better preservation of the above-mentioned m interesting stone, which seems to be suffering from weather, and has within recent years sustained ser mutilation and damage otherwise?

"Later probably by some two centuries than the to stones of those 'eminent priests, Viventius and Mavoric at Kirkmadrine, in Wigtownshire, older by a centur least than the Ruthwell Cross, and boasting nothing of rich ornament and solemn verse which distinguish superb monument, the stone at Yarrow yet ranks these as one of the most ancient inscribed stones of na production in the isle of Britain; it equals, if it does surpass them in importance as a 'document' of our nati history; it should appeal as powerfully as either to ardour of the patriot, the piety of the Christian the common sympathy of mankind. It was erected a father over two sons who fell on the fiel battle, and turned for him a glorious victory into 'dule sorrow.' That victory was one—the later and m decisive—of two (the other was fought at Arderyd Arthuret, in Cumberland) won by the Christian Briton Strathclyde under the same prince over the heathen An advancing from the east; and it not only secured the dom and Christianity of Cumbria, but also prevented English conquest of the whole country south of the F and Clyde, and made the future kingdom of Scotland sible. The king who gained the battle but lost his sons was Rederech (or Roderick) Hael, the friend of founder of Glasgow, St. Kentigern (otherwise St. Mu and the prince who recalled that saint from exile in W to resume his work and end his pilgrimage beside Molendinar. It will be remembered that St. Kenti when he came back from Wales, paused for a whi Hoddam, which is just across the hills to the we Yarrow.

"The stone bears the following inscription:—'Hic memoriae . . . (blank) . . . insignissimi principis Dumnogeni. Hic jacent in tumulo duo filii Liberalis.' Nudus, we know, is Rederech Hael; for so he is nam the 'Four Books' of Wales, 'Nude the Liberal.'

"The stone stands on the field where the battle fought (A.D. 592), on an elevated plain above the nor bank of Yarrow water, close to the old Roman ro nnan, which bears the name of 'Annan Street.' For long ges it lay prostrate in the soil; but it was discovered in 803, when the land was first broken with the plough. Sir Valter Scott heard of it, and, accompanied by Mungo Park nd Leydon, attempted, but with ill success, to make out the scription. To the present parish minister of Yarrow, the ev. Mr. Borland, and Professor Rhys, the credit of its ecipherment is due.

"It now stands erect; but, as I have said, it has already ffered, and it still suffers and is still in danger. The ank in the inscription might have been supplied some ears ago. Mr. Borland remembers the fragment of stone hich bore (it is probable) the missing letters, lying at the ot of the stone; when next he visited the spot the fragent was missing, having been broken up for road metal built into a dyke. The cattle use the monument for a bbing-stone; the weather tells on it; the result of their mbined exertions being that already the characters near e bottom of the stone have been very nearly obliterated.

"Can nothing be done for its better preservation? The mbstones at Kirkmadrine are no longer in use as gatests; they have been placed within railings in a niche nstructed for them in the west gable of the mortuary apel in the churchyard there, where they can be seen d studied and photographed, and are safe alike from eather and beasts and the stone-chipping tourist. The ithwell Cross has an aisle to itself in Ruthwell Church. ight not—ought not—the Liberalis Stone of Yarrow to ve similar protection? The site on which it was found ght indeed to be marked by a facsimile, which would ither be costly nor difficult to execute. But the precious ginal itself should be removed to a place of safety. venture to suggest that its asylum should be Yarrow urch. To that sacred spot this memorial of two early ampions of the faith, who fell in its defence, the sons of e king who recalled and protected the great apostle of athclyde, would supply an added sacredness. There it uld be beside another relic of another patriot, a native, e the two Dumnogeni, of Strathclyde. For the bell of rrow Church was brought from the neighbouring, now ned, church of Deuchar, and in the church of Deuchar William Wallace was acknowledged by the Border efs as the Guardian of Scotland. There, finally, the ne would be safe, at once, and visible.

"There is a scheme, I understand, for improvements on church of Yarrow. Plans have been prepared by a most npetent architect, Mr. Paterson, of Glasgow. No one ld better advise how the stone should be placed in the rch, if it is determined to remove it thither. The portunity, I venture to think, is one that ought not to lost."

WHITWORTH INSTITUTE.

HE annual report of the Council of the Manchester Whitworth Institute alludes to the recent transfer of Whitworth Park to the Manchester Corporation. The of the park to the citizens of Manchester, they point represents about 45,000*l.* of purchase money and ool. of expenditure, and "closes the administration of late Sir Joseph Whitworth's benevolence, except only as e Institute itself and its endowments." Altogether the tal expenditure by the legatees on the park and Institute amounted to 184,386*l.*

As the Corporation have undertaken the maintenance in y respect of the park, the Institute has effected its ase from about 1,500*l.* per annum of expenses, or, in r words, has set free for administrative use about 40,000*l.* s endowment fund. The Council have, therefore, felt perty to prepare plans for material developments of the tute buildings. These plans include the erection of three idiary galleries at the back or west side of the present ral gallery. The new galleries will form handsome consistent extensions of the present galleries, with enient access and circulation for visitors, and it is the ition of the Council afterwards to dedicate them to rate special exhibitions. In the first instance, however, hree galleries will be utilised for storing the various ctions which are now lodged inconveniently in the old e formerly occupied by Alderman Hopkinson, and in emporary corridors forming the present façade, now pied by the library, Sir Charles Robinson's collection xtiles and other interesting and valuable specimens of us kinds. As soon as the removal is complete the old e and these corridors will be taken down to make room more appropriate and handsome façade facing towards Oxford Road, providing a fine sculpture gallery, and an apartment for library and study, besides suitable suites for official purposes and for the accommodation of visitors and the staff. The western galleries are expected to be ready for use, for storage and partial exhibition, during the course of 1905, and the new front galleries may, it is hoped, be commenced early in 1906.

PTOLEMAIC RELICS.

A RICH find of valuable ancient relics has occurred at Farcous, a district in one of the Delta provinces contiguous to Cairo. The treasure was accidentally discovered (says a correspondent of the *Glasgow Herald*) by a native watchman, who stumbled on to it buried beneath a village tel, or mound. The Antiquities Service immediately laid its lien on the objects, which have now been brought to Cairo under a special guard to be exhibited in the new jewel-room of the museum, which has been thoroughly rearranged by Brugsch Bey. The already magnificent collection of the museum will be considerably enhanced by the new additions. The monetary value of the ornaments is calculated, by a modest estimate of the Antiquities Service authorities, to exceed 4,000*l.* This estimate appears to err on the side of modesty, having regard to the mere quantitative enumeration of the objects which, at the time of discovery, were reported to consist of the following:—Gold and silver bracelets, gold and silver statuettes and figures in the image of birds and beasts, silver candlesticks, a small coronet inset with precious stones; lastly, but probably the most interesting of all, is a complete silver table service of Roman pattern, including a capacious silver bowl beautifully chased. The whole of the jewellery, indeed, is most artistically worked, and the majority of the specimens have been identified as dating from the Ptolemaic epoch. It is presumed that the treasure centuries ago was the buried spoil of a robber, who had never returned to recover his plunder.

FORTIFICATIONS OF BERWICK-ON-TWEED.

IN a letter from the Rev. James King, B.D., vicar of St. Mary's, Berwick, to the Local Government Board, he says:—

I thank you for your communication, and am pleased to know that the Government is now alive to the deplorable demolition of the Edwardian fortifications that has been going on in my parish for the last five years. His gracious Majesty the King on hearing of the destruction of the historical relics of his illustrious predecessor, Edward I., at once despatched a delegate to stay the vandalism going on, and but for His Majesty's prompt intervention the ancient fortifications of Edward I. and King Robert the Bruce, extending as far as the Bell Tower, would have been levelled with the ground. The King's messenger was, however, too late to save a large fragment of Berwick's original wall, namely, a solid block of masonry 10 feet high with external ashlars welded together with hot lime and forming a mass as hard as adamant. This grim relic of a stirring era in our national history had witnessed many strange vicissitudes and outlived the downfall of thrones and dynasties; but, in spite of much earnest pleading to spare this stern survival of days of yore, it was heartlessly battered down by a building contractor, and posterity has thus been deprived of its rightful inheritance. Twice the matter has received the attention of Parliament, the public Press with remarkable unanimity has roused the nation's indignation on the subject, and all our learned societies have protested against such iniquitous Philistinism. In spite of all this moral indignation I am sorry to inform you that the Berwick Town Council have actually sold for building purposes another site on the Edwardian fortifications, and are now only awaiting the sanction of the Lords Commissioners, which, according to the Berwick Corporation Act of 1843, is necessary for legalising any proposed lease of ground on the ancient walls. These historical ruins, hoary with the age of seven centuries, are national property and ought to be regarded as inviolable. The nation's rights are not to be trampled on from local sordid motives, neither ought the feelings of the cultured to be outraged nor our historical monuments imperilled through the apathy of a few "dressed in a little brief authority." Let me therefore entreat the Local Government Board not to sanction any further demolition, and thus preserve every inch of the remains of our old ruins intact to the nation and posterity.

NOTES AND COMMENTS.

THE report of the judges on the work done in the Trades Training School, Great Titchfield Street, W., is more satisfactory than the majority of productions of its class, for it contains photographs which will enable outsiders to judge of the character of what was done. The timber-framing, staircase, a fountain of masonry under a traceried and vaulted roof, painted panels, plaster ceilings, plumbing, wrought ironwork, carving, &c., are creditable to students, instructors, as well as to the director, Mr. H. PHILLIPS FLETCHER. It is a rule of the schools that none of the students' work is to be touched up by the instructors, and what is represented is therefore what it professes to be, that is, the genuine work of students. As the Wheelwrights' Company co-operate, more of that trade have to be admitted, otherwise the school is one for builders, and is not to be surpassed in London. The terms are moderate, being generally 5s. for a term of three months for adults and 3s. a term for apprentices and improvers.

SINCE the publication of views of English cathedrals was commenced in *The Architect*, a great many descriptive books on them have appeared. The subjects are, however, so vast and varied there is room for more. The latest is the work of Mr. T. FRANCIS BUMPUS (London: T. WARNER LAURIE), of which the first volume has appeared. The author has already shown his competence by his works on French and other cathedrals. The present volume relates to Durham, Ely, Lincoln, Salisbury, Worcester, Hereford, Chichester, Chester and Bristol. Mr. BUMPUS writes for the public in general, and does not confine himself to archæology and ancient ecclesiastical history. If a visitor to a cathedral before a service can examine the building the pages will supply him with all the assistance he is likely to require. If he remained for service he can afterwards read about the organ and its builder and musical associations of the place. The majority of visitors prefer modern work, and Mr. BUMPUS takes great pains to record the efforts made to beautify the different buildings. Sometimes he contrasts the building with foreign examples. The book, in fact, is a model of a guide-book for an intelligent man who has not time to make use of technical books relating to Mediæval architecture. Professor WILLIS's technical descriptions of some of the cathedrals are admirable, but they are not to be seen in the hands of visitors. The book is illustrated by very clear photographs.

THERE has been opposition to the surveying of "drift" in connection with the Geological Survey. But it should be remembered that for many purposes the immediate surface of the earth is of more importance than the lower formations. The subject was considered by Mr. A. D. HALL in a paper which was read before the British Association on Tuesday. He explained that various foreign Governments have long been executing such a soil survey, but in the United Kingdom the matter has so far only excited one or two local attempts. While the basis of such work must always be the geological survey of the district, a geological survey in which, however, the thin "drift" formations are of greater importance than the solid geology, there are certain other items of information required by the farmer which would have to be supplied by the agricultural specialist. In the first place, the farmer wants to be told the thickness of the superficial deposits; he requires frequent "ground profiles," so that he can construct an imaginary section through the upper 10 feet or so of his ground. The proximity and, if near the surface, the direction of flow of the ground water are also matters on which there could be given to the farmer information of great importance when questions of drainage or water supply have to be considered. For the examination of the soil the field surveyor wil procure typical samples of which the texture anc physical structure can afterwards be worked out in th laboratory. But analytical figures are liable to b deceptive. This is because the productivity of a give piece of land depends upon a large number of agencies any one of which may be the limiting factor in the cro yield. We may enumerate, for example, temperatur and water-supply, both determined by the climate, b the natural physical structure of the soil, and b the modifications in its texture induced by cultivation; there are, further, the aeration and the actua texture of the soil, the initial supply of plant-foo of various kinds, and, again, the rate at whic the last item is rendered available to the plant b bacterial action or by purely physical agencies. Al these factors interact upon one another; to all of them and not merely to the nutrient constituents, doe LIEBIG's law of the minimum apply; so that any on may become the limiting factor and alone determine th yield. It is not only the farmer who is interested i such a survey. Questions of sites of buildings coul also be often located if there was a trustworth description available of the upper surface.

IT is understood that the Bishop of MANCHESTE during his visitation will make inquiries relating to th "terriers" of the different parishes. The word is no supposed to relate to ecclesiastical property alone, bu investigation would show that it was also used in co nection with secular possessions. Apparently it wa not always easy in the good old times to obtain the se vices of a surveyor. Schoolmasters had occasionally t serve as GOLDSMITH describes in the "Deserted Village. But lawyers got over the difficulty by an elaborat description of the ground, stating what propertie adjoined, the roads, streams, buildings, &c. That, w believe, was the origin of the terrier, and it was generall applicable. The ecclesiastical terrier relates to much els for it can comprise church plate, vestments. There a difficulty at the present time in France owing to th absence of such schedules, for it is supposed exampl of ancient art have been bartered for new products. I England there is not so much portable property as ma be found in foreign churches, but what remains shoul be carefully conserved, and the bishops would do we if they could initiate a new and more perfect "terrier than now exists.

ILLUSTRATIONS.

CATHEDRAL SERIES.—WAKEFIELD: THE SOUTH CHOIR.

THE church now known as Wakefield Cathedr was repeatedly altered. A great many exampl of stained glass which would now be considered as i valuable were removed. People could not treat the ston work as they may have desired, but whatever w portable was cleared away. It is therefore remarka that parts of the seats used by clergy and choriste were overlooked. When the restoration of the buildi was undertaken in 1872, the parts which had surviv were retained and adopted as models, in order that t modern woodwork should correspond with the old. T result, as shown in the illustration, is that the furnit of the choir has an ecclesiastical character and increas the interest of the building.

HOUSES AT MUNSTEAD, SURREY.

PUBLIC LIBRARY, BROCKLEY.—VIEW FROM BROCKLEY ROAD

PUBLIC LIBRARY, SYDENHAM.

MOUNTFIELD, REDHILL, SURREY.

HOUSE, CHRISTCHURCH PARK, SUTTON, SURREY.

DESIGN FOR HOUSE.

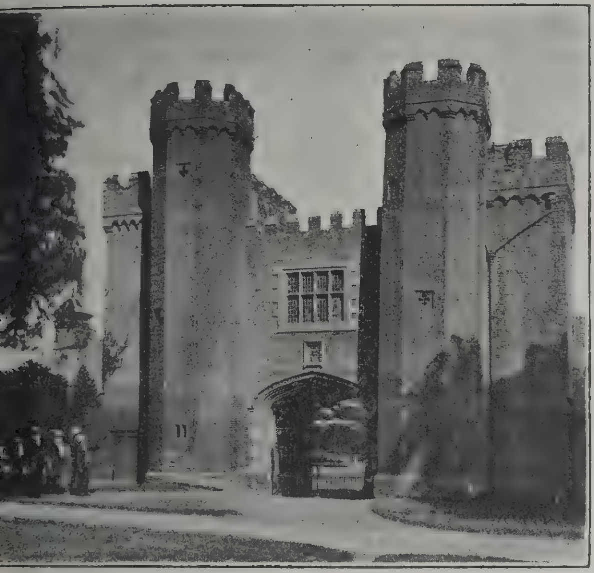
REDCOURT, CHRISTCHURCH PARK, SUTTON, SURREY.

LULLINGSTONE AND EYNSFORD.

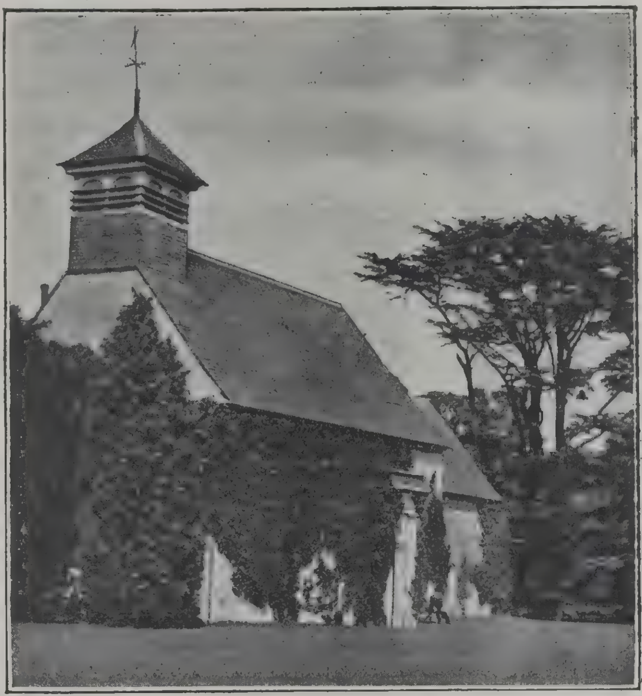
HE fifth summer ramble of the members of the Upper
Norwood Athenæum was directed to Lullingstone and
nsford, under the leadership of Mr. R. M. Bromley.
in was taken to Eynsford. Lullingstone Castle, the
estral home of Sir William Hart Dyke, whose Parlia-
ntary career has extended over half a century, less a
ade, was visited. Then followed an inspection of the
rch of St. Botolph, Lullingstone, the dedication of which
somewhat uncommon if we except the case of St.
tolph's, Boston, and the churches at the entrances
the four principal roads out of Mediæval London—
lgate, Bishopsgate, Aldersgate and Billingsgate. The
ty afterwards returned to the charming village of
nsford, where the church of St. Martin was seen. The
dication in honour of St. Martin is somewhat frequent in
nt, doubtless on account of the proximity of that county
France, of whose armies St. Martin of Tours was the
ron saint. The mother-church of Canterbury is dedi
ed in St. Martin's name, and quite a dozen examples
y be found in the county, and nearer home St. Martin's-
the-Fields will recur to the memory. The beautiful
rman arch of the west doorway was noted, with the
npanum filled in with stonework having a diaper of
enge pattern upon it, but the door itself has a Pointed
h, evidently inserted at a later period.

The members and friends afterwards assembled for tea at the Castle Hotel, Eynsford, and at the meeting which followed, presided over by Mr. Frank E. Spiers, the chairman, the following paper was read by Mr. Bromley:—

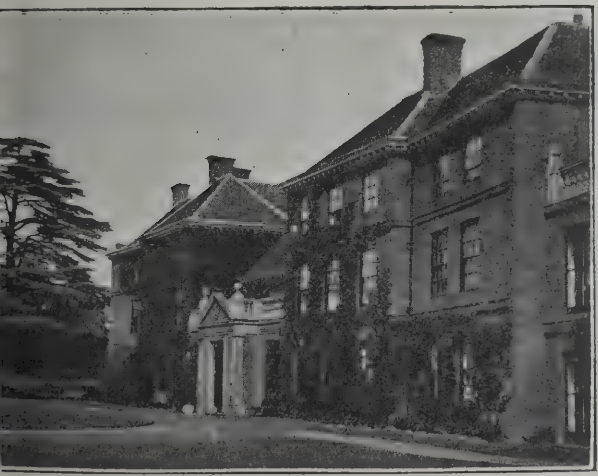
The church of Lullingstone is called St. Botolph after the saint of that name, and was restored in the reign of Edward III. by John de Rokesle. It originally consisted of a nave and chancel with a western bell-cot in which hung one bell, but in Tudor times Sir John Peche added a north chapel to the chancel and built for himself a magnificent monument of elaborately carved stone on the north side of the high altar, inserted a handsome wood screen, and filled the windows with stained glass. The carving of the wood screen fixes its date, as there is upon it the pomegranate badge of Catharine of Aragon, sometimes alone, but several times united with the Rose of England; and there are also peach stones, which symbolise the donor's name. Sir John Peche was Constable of Dover Castle and Warden of the Cinque Ports, and also Deputy of Calais. Sir John left no issue. His estates were inherited by Percivall Hart, the son of his only sister, Elizabeth, who was twice married. Her first husband was John Hart, of the Middle Temple and of Orpington. The east window of three lights represents St. Agnes, St. Anne and St. Elizabeth. In the south window of the chancel there is painted glass dated 1563, representing Solomon praying for and receiving the gift of wisdom, St. Nicholas with the children he had restored to life, and other subjects. The whole wall south of the



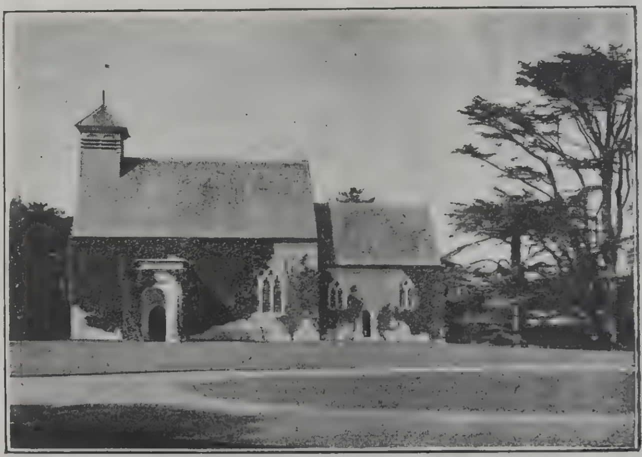
Lullingstone Castle, Gateway.



St. Botolph, Lullingstone.



Lullingstone Castle, the House.



St. Botolph, Lullingstone.

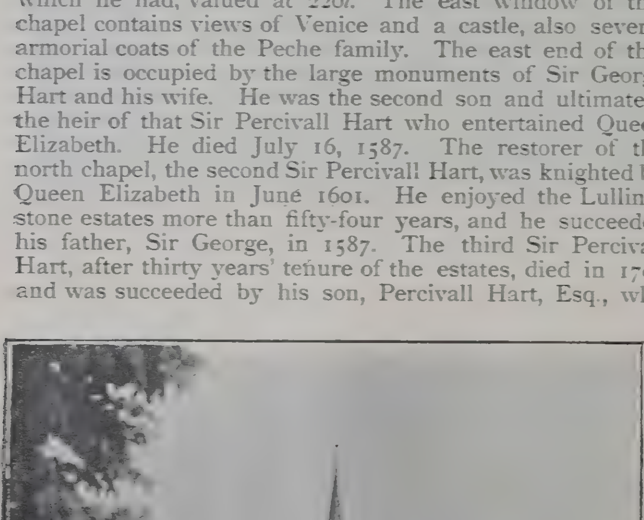
Communion-table is occupied by a large emblazoned monument to the memory of Sir Percyvall Hart and his wife, Frideswide. Succeeding in 1547 to the estates of his grandfather, Sir John Peche, he was the first of the Hart family who resided here.

Sir Percyvall Hart acted as Chief Server and Knight Harbinger to four Sovereigns—Henry VIII., Edward VI., Mary and Elizabeth. The quaint inscription on his tomb is as follows:—

Percivall Hart, goode Knight, lieth here; ye heir to Peche was
Who did his daies in service of four worthi princes pass.
Of whom the first him knighthoode gave, but all him favoured much;
And though the change of reignes and sway of state sometimes were suche
As serched all sorts, his name in question never came nor went.
His yowth in wars abrode, his age at home in peace he spent.
Chief Sewer and Knight Harbinger in Court his places were,
And those two rowmes, in those four reignes, with credit great he bare.
In Lord Braie's blode he matched, wherethrough twelve children he obtaind
Which, as their states and ages cravde, he orderly uptraind
Himself, his house and household train, his diet, and his port
With what to worship else might tend, he usde in such goode sorte.
As to his praise just proof procurd, wheras he had to deal
A friend to all, a foe to none, fast to his common weal
Here fourscore years and four, with men, he lyvd on earth to die:
And dead, with saints in heaven now lives, and shall eternallie.

Obiit vicesimo primo die Maii 1580.

Oaken stalls line the walls of the chancel, its pavement, like that of the nave, is formed of marble, black and white, but is laid in squares, and in the nave in lozenge shape. The north chapel was not completed until after the death of Sir John Peche in 1521-2. In a codicil to his will he left to his wife for the cost of its completion all the gold chains which he had, valued at 220*l*. The east window of this chapel contains views of Venice and a castle, also several armorial coats of the Peche family. The east end of this chapel is occupied by the large monuments of Sir George Hart and his wife. He was the second son and ultimately the heir of that Sir Percivall Hart who entertained Queen Elizabeth. He died July 16, 1587. The restorer of the north chapel, the second Sir Percivall Hart, was knighted by Queen Elizabeth in June 1601. He enjoyed the Lullingstone estates more than fifty-four years, and he succeeded his father, Sir George, in 1587. The third Sir Percivall Hart, after thirty years' tenure of the estates, died in 1700 and was succeeded by his son, Percivall Hart, Esq., who twice represented Kent in Parliament. He was honour by a visit from Queen Anne. The bedroom, with t identical furniture used by Her Majesty, is still show There is a full-length portrait of Queen Anne in the Sta drawing-room of Lullingstone Castle. This Mr. Hart h no son by his wife, consequently he was the last of h name; here his daughter and heiress, Anne Hart, marri Sir Thomas Dyke, who restored the park and readopt the title of castle to the estate. He having completed, 1754, the restoration of the south window in the nave, di two years later, in 1756, but his wife, the true owner Lullingstone, survived until November 1763. Dame An Dyke is commemorated by a mural tablet with a profile bu of her son on the north wall of the north chapel. Her so Sir John Dixon Dyke, disliked passing over a bridge eve time he entered or left his home; he pulled down the han some inner gateway of Lullingstone Castle and filled up t moat.



St. Martin, Eynsford.

The well-preserved monuments of Lullingstone Chur present to us memorials of the history of one family whi for more than five centuries has been seated here, and h during that long period been ever careful for this the parish church. The pedigree of the Lords of Lullingsto manor for 540 years, from John Peche, 1361, to Sir Willia Hart Dyke, the present owner, whether called by name Peche or of Hart or of Dyke, the unbroken descent of th same strain of blood and of feeling, finds in this chur abundant testimony. A family tradition directs that, whe ever the heir to the property marries he shall drop a go coin into an ancient bag of similar coins which have bee so deposited by his predecessors, and he and his family a forbidden to count the contents of the bag.

In the time of Archbishop Dunstan, Eynsford was give by a Saxon named Ælphege to the monastery of Chri Church, Canterbury, whence it appears the church existe here long before the Norman Conquest.

The existing building shows no trace of the Sax church and very few features of a Norman character. Th eastern apse and south transept are in the Early Englis style, and alterations were made in the church during th Decorated period. The only wall that can be pronounce without doubt to be Norman is the south wall of th chancel; high up in it are seen traces of the round hea of two original Norman windows. In the Early Englis period Eynsford Church assumed its best aspect. The not only were three beautiful windows inserted in the aps and an aisle of two bays added to the chancel, but a gracef transept was built on the south side of the nave. Th transept roof has moulded ribs and stone corbels. Durin the fourteenth century much was done in Eynsford Church the Norman windows of the chancel on its south side wer replaced by larger ones. South of the chancel arch sto an altar, as indicated by a piscina in the wall.

The photographs of Lullingstone Castle and Church ar by Mr. H. S. Mendelssohn, that of Eynsford by Mr. H Virgoe.

EXCAVATIONS IN VIENNA.

According to the Vienna correspondent of the *Manchester Guardian* a very important archæologic discovery has just been made in the city. It has been know for a very long time that the Roman fortress Vindobon was situated in the immediate neighbourhood of St. Stephen Cathedral—that is, in the very centre of the city—but antiquaries could not agree about the situation of the civilia town Vindobona, which bordered on the fortress. Numero new buildings are being erected in the Landstrasse distric south-east of the city, and in the digging out of the foundations a great quantity of Roman masonry has been disclosed. Floors of various kinds and mural paintings hav been laid bare and various other finds been made, so tha the situation of the civilian town Vindobona can now b positively ascertained. It is in the Prætoriusgasse, wher a large house for the botanical institute of the University i being built, that the most valuable finds have been made and from these it is clear that dwelling-houses of Roma patricians once stood there.

The foundation walls of nineteen buildings, which ar situated on both sides of a lane about 8 yards wide, hav also been laid bare. The floors consist mostly of reddis or brownish concrete or of earth beaten down. In some o the structures there are several layers of beaten earth, one above the other, and from the ashes and rubbish betwee them it may be concluded that the buildings were burne down several times. Fireplaces, other contrivances for ating (*hypocausta*), and drains have likewise been un-ered. The floors and walls in all the rooms were ered with a thick layer of charcoal, ashes, pieces of oved tiles from the roof, plaster and potsherd. Among coins which have been found there are a *denarius* of rcus Antonius, an *as* of the Emperor Vespasian, a brass *bondius* of the Emperor Trajan (with his column on the erse), a *denarius* of the Emperor Antoninus Pius, an *as* the Emperor Marcus Aurelius, a *dupondius* of his co-gent Lucius Verus (Mar, with Tropæum and a Victory), *sestertius* of the Emperor Commodus, and a *denarius* of lia Mammæa, the mother of the Emperor Alexander verus (with a *Felicitas Publica* on the reverse). As no ns of the fourth century have been discovered the con-sion is drawn that the buildings were destroyed in the rd century. The tiles for roofing are either stamped th T. CL. MAXJ(mus) or with G.L.F., whilst two clay mps show the stamps CRESCE and C. DESSJ respec-vely. Among the metal articles there are two bronze lls, a small chain, an iron pan, a fibula, and a bas-relief lead with three female figures (Crossway Goddesses).

SOME ASPECTS OF ANCIENT AND MODERN EMBROIDERY.*

(*Concluded from last week.*)

WHILST the Bayeux needlework is, without doubt, the most important piece of secular embroidery which e know of, done in France or England during the eleventh twelfth centuries, available evidence concerning English ecorative needlework of the twelfth, thirteenth and four-enth centuries points to a preponderance of such as was use for ecclesiastical purposes; and this may be counted for, in some degree at least, by the facts that e Cluniac monks were enjoined under their rules to pay pecial attention to liturgical splendour, and that monastic stablishments, many of which were under the Cluniac rules, ere almost the only places in England at which there was fficient organisation for producing such artistic work as ecorative embroidery during the period in question. Con-tions favourable to work-rooms of a purely secular or ade character did not arise until the thirteenth century. hat they did arise may be said to be due in great part to the ventual infusion of Norman habits of order into the English eople, who thus became sensible of the value of social and olitical organisation, of law, method and enterprise. In ue course, then, under such conditions, it is not improbable at embroidery became a home occupation for wives and aughters especially of men engaged in other crafts and allings; and we get perhaps a suggestion of this phase in e practice of the art characteristic of the thirteenth cen-ury, from specimens of it which have a marked affinity in rnamental design to that of scrolling metalwork. Gold-miths, who found it worth while to settle in some of the omparatively few important towns, carried on their work dependently of monastic workshops, and probably supplied the gold thread, in some cases gold wire, with which uch embroidery was made at the time for military, civil nd church ceremonial purposes. An early manuscript entions "Goldsmythes furste and ryche jeweleres: And y hemself crafty Broderes." This appears to indicate the xistence of some sort of kinship, as it were, between such raftsmen, and I will refer shortly to a definite instance of ctual co-operation between such craftsmen in making an nportant bit of work.

But before doing so I wish to show you a slide from an ngraving of the vestments reputed to be those of Thomas à Becket, which are preserved at Sens. The ornament of the itre, and near the neck and shoulders of the cope, is of a crolled metal style, and is embroidered in flattened gold read. Very like it is the gold thread embroidery upon emains of faded silk which were found in an early hirteenth-century tomb at Worcester, the tomb of Bishop Walter de Cantelupe.

More graceful in design, but of the same kind of needle-vork, are the fine open scrolls encircling lions on this slide. This is part of some thirteenth-century vestment, but from he absence of sacred symbolisms it serves also to suggest at east a style of ornament for secular work at that time. The xamples of such embroidery are rare.

King Henry III., as is well known, was an active patron of his country's arts, not merely of those followed under ecclesiastical direction, but of those independent of it, and one reads of His Majesty issuing instructions in 1244 that Edward Fitz-Odo, the son of Odo, a famous gold worker at Westminster, should make a dragon in the manner of a standard or ensign of red samit (or silk), to be embroidered with gold, and "his tongue to appear as though continually moving, and his eyes of sapphire and other stones." This clearly establishes such an inter-relation of art-crafts as I alluded to above, and proves the employment of a goldsmith, a jeweller and a broderer upon a single important bit of work. On another occasion the king calls upon John de Somercote and Rogeri Scissori—art workmen in Lichfield—to produce richly embroidered silken robes, tunics, &c.

Upon this next slide we see gold thread scrollwork in combination with figure subjects minutely stitched in silk embroidery. This is the front of a thirteenth-century embroidered chasuble, the shape of which has been cut and altered since it was first made. The sacred figure subjects set within the four-lobed panels were doubtless derived from some manuscript illumination, and are admirable for the simplicity, distinctness and apparent earnestness with which they are expressed. The combination of scrolls, panels and figures is distinctive as a fourteenth-century type of design for embroidery and worth noting. In old documents, inventions and records of the thirteenth century, for instance, entries concerning "opus Anglicum," "opus Plumarium" and the like often occur; and although it has grown to be a custom to accept "opus Anglicum" as a title peculiarly identified with fine split-stitch or chain-stitch embroidery of such sacred subjects as those we have just seen, I do not think that there is any more valid authority for accepting it in this way than there is for assuming that "opus Plumarium" is a long and short or feather stitchery of the thirteenth and fourteenth centuries. As I mentioned, plumarius was the trade title of the Roman embroiderer, so that "opus Plumarium" should mean embroiderers' work generally. The fame of English ecclesiastical embroidery was certainly very considerable in the thirteenth and fourteenth centuries. Many fine examples of it were sent abroad, sometimes as royal gifts, at others in response to definite commissions for vestments of "opus Anglicum." Still, it may be well to note that a century or two before the English needlework had attained this celebrity, it appears that the typically English illumination of MSS. was also called "opus Anglicum." How much the famous embroidery owes to equally famous contemporary illuminations is a point which seems to me to be capable of a good deal more elucidation than that which I can try and offer to-day.

I have chosen one or two specimens of the kind of embroidery which seems to be fairly well authenticated as English of the thirteenth and fourteenth centuries, and also of one or two examples of MS. illumination of the same time. These may serve to show some relation of designs for MSS. to those for embroideries.

In describing a finely illuminated MS. of the thirteenth century, well known as the "Tenison Psalter," the late Sir Edward Bond pointed out that in the course of that century the arts of painting and illuminating were becoming secular professions followed outside the cloister. To a similar extent embroidery must have been done also outside the cloister; but it would be difficult to hint at all satisfactorily how far the embroideries we are about to look at were made in monasteries or outside them. In any case the designs are clearly the work of trained and versatile draughtsmen, whilst the needlework exhibits a technical finish which, without offence to modern English workers, is unrivalled by their work as a rule.

I hope, from what I have said, that it will not be difficult for us to picture to ourselves that frequent co-operation must have been the rule between the draughtsman and the embroiderer—that is to say, between the illuminators and possibly their wives and daughters or those of other artistic craftsmen, such as goldsmiths.

In the fourteenth century guilds for regulating the conditions of their work were beginning to be formed by the craftsmen themselves, and such organisation seems to have been a secular counter-move to the dissensions between the various religious bodies. It is claimed that, as early as the thirteenth century, a craft guild of embroiderers existed in London. This, however, may be doubtful, though from a legal document dated November 15, 1293, belonging to the present Broderers' Company, it appears that the existing Broderers' Hall in Gutter Lane stands on a site then occupied by the workshop of William de Herslake—a saddler—which was close to the tenement of one Adam, a goldbeater. We may, perhaps, imagine that William de Herslake sometimes undertook to produce saddlery and horse-trappings decorated with embroidery, and if so, that Adam the gold-beater may have helped in procuring the gold thread or wire required by Herslake for such a purpose. However this may be, it is quite certain that of the existing charters of the Broderers' Company the earliest was granted by Queen Elizabeth in the sixteenth century, or some three hundred years later than the times of William de Herslake the saddler and Adam the gold-beater. Amongst the company's interesting historic possessions are two cups, one given in 1606 by John Parr, who was embroiderer to Queen Elizabeth and James I., and the other by Edmund Harrison, embroiderer to James I. and Charles I. The company nowadays encourages the instruction of women in embroidery by means of scholarships, which are tenable at embroidery classes conducted in various London technical schools.

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* A Cantor Lecture by Alan S. Cole, C.B., delivered before he Society of Arts and published in their Journal.

Let us, however, return to the thirteenth and fourteenth-century English church work.

We begin with the famous cope in the Victoria and Albert Museum known as the Syon Cope. A full description of it is given in the late Dr. Rock's "Textile Fabrics in the South Kensington Museum." The particular points upon which I wish to lay some stress are:—First, that the surface of the cope as displayed in this slide is entirely of needle-stitched embroidery. The ground is as elaborately stitched as the figures upon it. There is no employing of a rich satin or velvet and then embellishing it with occasional embroidery. As I have said, all that we see here is pure needle-stitched embroidery. From the technique of the needlework let us turn to the design, which consists of a sort of tracery or diapering composed of overlapping quatrefoils. Simple diaper and trellis patterning was much in vogue in the thirteenth and fourteenth centuries. Within the quatrefoils and interspaces are various figures. In the highest central quatrefoil is Christ, crowned as a king, seated with the Virgin Mary. Below this is the Crucifixion. The single figures consist of the Apostles and of seraphim with crossed wings, a device which appears in much earlier illuminations. These figures stand out clearly in definition or silhouette against their backgrounds. Most of them have a slightly curved attitude.

Now some corresponding characteristics will be seen in the next slide, which is taken from a page of the illuminated MS. known as Royal MS. 1 D. 1 in the British Museum. Dr. Warner, keeper of the manuscripts, who has very kindly given me valuable information in the course of the inquiries I have made, calls attention to an interesting coincidence—that one William of Devon was the writer of this MS., and living at the same time was one Master William, a painter to the king, and named in the Close Roll of Henry III. 1251-2. Whilst there may be no direct evidence that the king's painter actually illuminated the MS., it is not wholly improbable that he may have done so. The point, however, is not of serious importance; it is merely suggestive in connection with secular illuminators.

The page of illumination before us gives us the coronation of the Virgin, the Crucifixion, with the Virgin and St. John on either side of the Cross; seraphim with crossed wings, and St. Peter and St. Paul. These are all of rather more rigid appearance than the same subjects and figures in the Syon Cope, but there are resemblances in details between the two sufficient, I think, to convey a sound suggestion of co-operation between illuminators and embroiderers in production of such church vestments. Such resemblance is stronger, I think, between this illumination and the cope of "opus Anglicum," known as the Madrid Cope, of which a coloured illustration is on the table.

Another cope, of slightly later date than the Syon Cope, is known as the Ascoli Cope, and has been the subject of much recent discussion. Its embroidery is as elaborate as that of the Syon Cope, and entirely covers the outside of the vestment. The underlying scheme of its design depends upon a repetition of separate roundels, which are cusped, containing figures representing sacred events relating to early and later popes. We see only four of these roundels.

The next slide, however, gives us a full view of the cope. Taking the series of roundels horizontally, we have in the upper one a head of Christ in centre, and I ask you to note some special features of it—the arrangement of hair falling at the back of the neck, the shaping of the beard, the high forehead and the long nose. On each side of the Christ are martyrdoms of different popes, such as St. Clemen St. Peter, St. Corneille, St. Marcel. The middle horizonta series has the Crucifixion in the centre, and right and le of it various teachers of the Church—St. Sylvestre, S Gregory and others, each accompanied by two bishops; th lower series consists of the Virgin and two angels in th centre and two popes on either side, the four popes bein Innocent IV., Alexander IV., Urban IV. and Clement IV who succeeded one another in the Pontificate from 1243 t 1268. A coloured illustration of this cope is exhibited in frame.

The use of roundels and variously-shaped panels enclos ing figure subjects occurs in English illuminations of th thirteenth and fourteenth centuries, and the instance o shaped panels which I show is supplied by part of a pag of a Psalter of the early fourteenth century. The style o the figure drawing, broadly speaking, corresponds with tha of the Ascoli Cope, although the subjects are different. Th face of Christ, however, has many points of resemblance t that on the Ascoli Cope—the high forehead, the long nose the shape of the beard, &c., suggestive of the relatio between the work of the illuminator and that of th embroiderer.

Another type of embroidery design is given in this slide from a fourteenth-century cope of red satin, worked wit the same kind of needle-stitched embroidery as that of th previous copes. In this, however, the satin plays a important part in the design as a ground to the symmetrica scrolling branches of the Jesse tree, the various figures i which are similar to those in the Syon Cope. There is a good coloured illustration of this Jesse tree cope in th room.

Specimens of secular embroidery of the fourteenth century are rare. One, entirely different in work from those of the Church vestments just seen, belongs to the Victoria and Albert Museum, and is a hanging of patchwork in coloured cloths. This method of decorative needlework is well suited to the rendering of broadly-treated designs. The example before us is called French; however, I se no particular reason why it may not equally well be called English. Forms of different shapes are introduced into it at the same time, breadth and simplicity in treatment s suitable to the method of patchwork are distinct features o this specimen. The late Dr. Rock, in describing it suggested that the design probably represents incidents corresponding to some in the legend of Sir Guy of Warwick, an Old English metrical romance written in the thirteenth century. The costumes depicted here are of a century later. The drawing and grouping of the figures and their surroundings appear to be such as one would be likely to see in an illuminated MS. of the legend.

Failing to find some contemporary drawing or painting of English embroiderers at work in the fourteenth century, I have had a slide made from a fresco by Ambrogio Lorrenzetti in the Palazzo Publico at Sienna between the years 1337 and 1339 of an ideal prosperous town at that period. With some modifications in the architecture, it may serve to give approximately some idea of what would have been going on in an English country town—say Canterbury, for instance. To the left we have a boot-shop and men at work; beyond it a school; then a grocer's or wine-shop; in the background two women at needlework near the small alley, up which are passing mules bearing bales of wool-packs, &c.

Now the three or four specimens of English thirteenth and fourteenth-century embroidery which we have seen serve, I think, to convey a fair idea of the standard of technical finish attained in a time when its fame abroad was very considerable. However, soon afterwards it began to deteriorate, and it may be difficult to account for this. Both illuminating MSS. and carrying out embroideries from designs by illuminators were apparently becoming professions, to some extent at least, outside the religious houses in which the main practice of such arts had been fostered. But it would seem that this outside or secular practice of the arts had not taken effective root, so that when the influence of monastic establishments began to weaken, as it did, the interests of a comparatively minor art such as embroidery suffered. The deterioration in English embroidery coincides with a period when conflicts were constant between secular and religious forces and when foreign and civil warfare was the rule, and yet it is interesting to note that progress was nevertheless being made in developing material resources and manufactures of utilitarian value, however much the nurture of the decorative arts may have lapsed. The deterioration in embroidery ıccompanied too by change in style of the ornamental d decorative elements used in the designs for it. Some rt of this change may, I think, be traced to the effect ɔught about by the introduction into this country of ·eign finely woven ornamental stuffs, brocaded silks, ins and velvets, the like of which certainly were not, and ɔbably could not, have been made here. Of many kinds d varieties, the designs of these imported fabrics were turally attractive. They were more easily obtained than less quickly produced embroideries, and so coming into ıeral use amongst the wealthy members of the community, the Court and the Church, they in large measure super- ded embroideries. For embroidery to maintain any sort of sition in such circumstances of competition, change in its ıamental appearance and in the amount of labour bestowed on it was inevitable, and so we find that handsome woven ıffs were often adopted by the embroiderer as the ground- ›rk for his enrichments. Embroidery used in this atively economical and sparing manner came to play an nost subordinate part to fine weavings: its designs adually became flavoured with characteristics of woven ament. Thus embroidery ceased to possess the charm its earlier richness and individuality, and descended to a ninished position in æsthetic importance. The progress this change is often indicated in English church em- ɔideries made throughout the fifteenth century. Probably greater number of church vestments consisted of foreign ks and velvets, rather sparsely sprinkled with em- ɔidered ornaments and bordered with effigies of saints d such like, more often singly than in groups, as in the ·lier embroidery.

An example of this class of work is now thrown on the een. It is a cope of rich purple velvet. The border, or ɔhrey and hood, are of embroidered figures; on the hood a seated figure of God, and on the orphrey are single ures of Apostles and saints under Gothic canopies. ɔon the velvet ground in the centre is the As- nption of the Virgin; above are two fleur-de-lys l below two Tudor roses. Three seraphim are nmetrically arranged about these devices, and beyond ain are various floral ornaments. All these details have s of that clean-cut definition and simplicity which are so ıracteristic in fourteenth-century "opus Anglicum;" ther, the epical or story-telling interest of the figures is all, and repetition of details is noticeable in the com- sition of the pattern. However, this is a good specimen late fifteenth-century embroidery.

In designs of later English embroidery we shall notice till further decline in simplicity of treatment and epical story-telling interest, whilst repetition with almost ɔmetrical symmetry is the principal basis of the patterns. nce the earlier imaginative and versatile manuscript nter seems to have become succeeded by a somewhat chanical and not very inventive draughtsman, who was re or less under the influence of repeating patterns as played in woven materials.

Although English church embroidery was almost dead the sixteenth century, secular embroidery in England ms to have had some fair vitality. It was used a good ıl in the costumes of the Court, and many of the modes its use and characteristics of its ornament came from ɘign sources into this country. For example, the work Holbein as an ornamentist contributed to English uaintance with an Italo-Flemish style of arabesque ament which is reflected in the gold thread embroideries King Henry VIII.'s costumes, so frequently shown in lbein portraits. In another way professional em- iderers, such as were employed by Queen Elizabeth and ıes I., must have been influenced by the ornamentation Chinese and Indian embroideries and printed cottons vly brought into England towards the end of the sixteenth tury. Repeated scrolling stems bearing and encircling vers, birds, &c., are prominent features in many such ental works, and furnish a comparatively lively contrast he sedate and balanced ornament which in large part been derived during the earlier part of the century from ıitectural panels and friezes of an Italian Renaissance e. Then again, books of patterns for embroiderers were ›lished first of all in Venice and Paris, and came into ulation during the sixteenth century. One of them was ıpiled by Matthew Mignerak, an Englishman, de- bed as a most expert worker in all sorts of linen- ·k. Beyond this, one may note the influence of tish affection for flowers, fruits and such like, which l long before expressed itself in manuscript illumi- ions, and now, amongst other ways, showed itself in adapting such subjects as ornamental devices in embroidery.

A fine example of the class of the conventional arabesque embroidery which had a vogue in sixteenth-century costume is shown in this portrait of Charles IX. of France, painted by François Clouet, about 1570. The daintiness and intricacy of the stiff inanimate ornament are well displayed in the bands of gold embroidered work, the decorative value of which is enhanced by contrast with the intervening ground of plain velvet. The whole costume clearly exhibits the skill of a good professional designer. Such men were more numerous in France than in England. Similar ornament was carried into embroidered hangings and curtains. It is a style of design that has more academic accomplishment, so to speak, than the peculiarly English style introduced into embroidery in the sixteenth and seventeenth centuries. Indeed, the English style exhibits many breaches of academic rules for the composition of ornament, and in this way points to an absence of that influence which in Italy, for instance, arose from the traditions of continuous practice in the decorative arts. The English style attracts attention by reason of its independence and quaintness in conceit, a quality perhaps in some relation to that of the conceits of Jacobean and Stuart poetry, which is said to have arisen from an aim of its writers to amuse by forcing the contrast between ideas and objects apparently remote and diverse. If such a suggestion is somewhat far-fetched, it does not clash with what, I think, was the fact, that there was a prevalent taste for certain extravagances, and, however well they may have been turned in literature, they were more absurd when represented in embroidery.

Portraits of Queen Elizabeth in one or other of her historically numerous and fancifully varied dresses give one, I think, impressions of the better achievements of which English embroiderers were capable in her time. Here, for instance, is one ascribed to Zucchero, belonging to the Duke of Devonshire. The queen's underskirt is embroidered, perhaps, in cross or tent-stitch, with a medley of plant, animal and bird forms. There seems to be little feeling for balance, congruity, contrast or ornamental arrangement, and even the colouring does not contribute much towards bringing the medley into harmonious unity.

The dress in Her Majesty's portrait at Hatfield is another instance of extravagance in conceits. The cloak is spotted with embroidered eyes and ears, along the sleeves are twisted snakes, and on the body of the dress is an orderly arrangement of floral sprays. At Hampton Court there is a portrait by Zucchero, which, if not of Queen Elizabeth, is of a lady of the period. Her dress is embroidered with continuous scrolls of fine stems bearing all sorts of flowers. In between the scrolls are birds and butterflies, and so forth. Another portrait of particular value for the careful drawing of the embroidery shown on it was exhibited under No. 269 at the Tudor exhibition a few years ago. The embroidery was in black silk principally, and the pattern was of scrolling and intertwisted stems bearing various flowers and fruit shapes. In patterns of such scrolls there is more order and scheme than in the heterogeneous medleys previously referred to, and this order is, I fancy, a reflex in pattern designing of that with which English embroidery designers and workers were becoming acquainted, through late sixteenth-century Italian weavings more especially, and through Oriental and Chinese embroideries gradually imported at the time. In a frame is a specimen of an ordinary Italian ornamental worsted weaving—the patterns of scrolls and pomegranates, &c. In another frame is practically the same class of pattern, done in black and gold thread English embroidery.

This slide also shows us something of this order or scheme of scroll design, strongly flavoured, however, with the English flowers and insects, embroidered on the linen jacket in coloured silks, the scrolling stems being of gold thread.

In the next slide we have a similar pattern of daintier scrolling stems, with flowers and leaves on a smaller scale, all, however, embroidered in coloured silks. In a frame is an interesting modern adaptation of this sort of pattern. It has been made by Miss Fellowes, of Birmingham School of Art.

Of a different character of work is the raised and padded embroidery which was much used in James I. and Charles I. and II.'s times for boxes, mirror frames, &c. Medley of heterogeneous devices is the keynote of style in design for such work. This, as we have seen, arose in the Elizabethan period, but the class of raised and padded embroidery grew into greater vogue during the two succeeding reigns.

I have had an enlargement made of part of the lid of a Stuart box or casket, in order that the great skill and regularity of needlework may be seen. King Charles I. is seated beneath a canopy; his queen is advancing towards him. Her dress is embroidered with a medley of floral devices. The curtains of the tent are decorated with the scroll and blossom pattern on a large scale, much the same as in the Elizabethan jacket we looked at. All about are odd disproportionate objects; absurdities, no doubt, yet factors in what has become a recognised style of embroidery design. Amongst the curious details are acorns rather larger in size than the pears near at hand; a moth or butterfly near the queen is bigger than her head and even than the dog above her, and so on.

A few years later in date is a toilet-box or casket, covered with white satin, upon which raised and flat embroidery has been worked. This slide gives us the front of the box with one of its doors, or flaps, thrown back so as to show the flat flower embroidery of the inside in contrast with the raised work of the outside. Along the lid are quaint plant forms, a butterfly or two and a rabbit and a squirrel. The sides of the box, which we do not see, are decorated with curious figures illustrative of Narcissus, Venus and Adonis, Apollo and Daphne, in Stuart dresses. The ornament on the lid of the box is arranged with intention and order; at the centre is a frame with a portrait, and balancing each other at the corners are grotesque birds, extravagant compounds of birds, shells and butterflies, an indulgence in quaintness or conceit which, however, was more vigorously expressed in marginal illuminations of manuscripts some 300 years earlier. The feeling for balance or order in arrangement may perhaps be considered to have been derived from Oriental work of later date. The skill of stitchery, which is admirable, is native. Deficient as we may have been in the art of ornamental design, our stitchery has been good; and, in connection with this, the numberless samplers of the seventeenth and eighteenth centuries which have recently turned up as valuable documents in the history of embroidery show, as a general rule, how assiduously girls practised the working of many sorts of fancy embroidery stitches, not to prove the peculiar application of them to definite schemes of ornament, but rather to exhibit variety in beautifully taken needle stitches.

Towards the latter part of the seventeenth century the stitchery in single specimens of costume and hangings is often comparatively simple and uniform in character, however much the details of the ornament may be varied. For instance, in this quilted bodice almost the whole of the embroidery is of chain-stitch only. The flowers, leaves and birds are fanciful in shape and treatment, much of this being borrowed from some Indian or Persian pattern; the distinct symmetry in the arrangement of these details is also derived from Indian or Persian patterns of the time.

Here, now, is a colour-printed cotton bed-cover from Masulipatam, which is but one type of many variations played for centuries by Indian or Persian Mohammedan pattern-makers upon a favourite motive inspired by the spreading branches of a tree, with birds seated amongst them, and the ground busy with undulations and animal forms. In this particular print the design is a masterpiece of symmetry and ingenious interlacement, the branches well marked, and the background powdered with delicate leaf forms.

We can sympathise with an enthusiastic English embroiderer of the seventeenth century who, upon seeing such a thing for the first time, would naturally almost become subject to the influence of its novelty, and so take ideas from it.

This portion of an English crewel embroidered curtain will perhaps illustrate my meaning. The inclination to observe order and balance in arranging the details of the design is shown. There is well-marked contrast between the stems and branches, and the small leaves, &c., powdered over the background. There are quaint bird forms; the twisting tree stems grow from undulations or mounds, in which occur odd birds and animals. There are turns and touches which announce the English embroiderer, notwithstanding the underlying Orientalism of his design; and so we have a product which contributes to founding what in after years becomes a recognised "style," but is neither pure Oriental nor pure English. It was, however, sufficiently attractive at the time to call into life some trade in English worsted embroideries on linen, cotton and canvas for curtains, cushion and furniture covers, from the time William and Mary into a good part of the eighteenth centu

In a corresponding way, trade in embroideries costumes flourished and met a range of popular dema far wider than that of the Mediæval Church or the Plant genet Courts. This slide from an engraved portrait of Ki George III. supplies us with a typical instance of the ki of gold-thread embroidery on such a coat and waistcoat was worn by His Majesty on state occasions. In formali and limited variety of pattern the embroidery had so affinity to that of many present-century Court dresses. T eighteenth-century style of patterns in the embroidery men's ordinary costume was chiefly French, owing much its characteristics to naturalistic floral sprays and garlan ribands, &c., such as are profusely displayed in silk weavings of the Louis XV. period; and a principal featu of the style in connection with costume is the repetition the same details—the same bunches and sprays—along t edges of coats and on the flaps of pockets.

The next slide is from an English dress-coat and wai coat of fancy velvet, embroidered with coloured silks, a we notice the repetition of the same bunches of leaves a blossoms, as a ruling principle in the design or compositi of the embroidery here.

It would, I am afraid, take us too far away from particular considerations we have yet to deal with, attempt any analysis of changes of fashion and taste, trace their effects upon the course of the art of embroide in this country, and to account for the decline in the e ployment of embroidery, whether for costumes or oth decorative purposes, which appears to have occurred duri the first half of the nineteenth century. In any case I thi that it would be seen that the ornamental designs, wheth for such coloured or plain white linen embroidery as w made for general use, more than ever ran in a groo similar to that of patterns mechanically printed or wov in which repetition of devices is unavoidable. Any effo towards a more independent style which would give bet opportunities for displaying the intrinsic merits of e broidery as an art handicraft were few and far betwe there seems to have been little or no public taste encourage them, little appreciation in fact of individual in such branches of ornamental art.

However, after about 1860 a change, which had b aimed at, does begin to appear. International exhibiti had been held at home and abroad; there were popu movements, due to private and to State enterprise, to di attention to the study and practice in this country of or mental art in its relation to taste in the production use of things of everyday life. Schools of art aided Government in different parts of the country had b at work for some few years; Ruskin had lectured written; William Morris was working in concert with Bur Jones, and influencing taste in many branches of arti construction and decoration, including, of course, ornamen textiles, tapestry-weaving and embroidery; two or th schools or societies were started for encouraging embroid the first one I think being under the presidency of Princ Christian, and another under Princess Louise (Duchess Argyll), and from these emanated embroideries of individ character, some from designs by Burne-Jones, Wa Crane and others. Exhibitions of ancient embroidery w held, an Arts and Crafts Society was organised in Lon with offshoots in the country, a Home Arts Association work centres throughout the kingdom came into being, within the last twenty years or so local anthorities others have formed classes and schools for system technical instruction, all of which have been agencies develop general taste in working and using embroid These forces of varied character have been, I think, m favourable to independence and individualism of work t to reviving such uniformity and conventionality as se to have prevailed in (say) English decorative art u monastic influences. Probably, too, it may be said that modern British conditions are less restrictive than thos academical régimes which have obtained in France, w central Government institutions, since the time of Colbe least, have more or less set up official standards of art w manship and manufacture. It is pleasant to find that m of our modern embroidery excites the admiration of cr abroad, who appear to detect in it merits of vitality taste, of which we ourselves may not be entirely consci

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Mr. T. Salkield, surveyor to the Leatherhead U Council, has received the appointment of chief enginee the municipality of Delhi.

TESSERÆ.

Roman Thermæ.

N the magnificent thermæ erected by the emperors,
edifices in which architectural magnificence appears to
e been carried to its extreme point, not only was accom-
dation provided for hundreds of bathers at once, but
cious porticoes, rooms for athletic games and playing at
l, and halls for the public lectures of philosophers and
toricians were added one to another to an extent
ich has caused them, by a strong figure, to be compared
provinces, and at an expense which could only have been
ported by the inexhaustible treasures which Rome drew
n a subject world. There were many of these establish-
nts at Rome, built mostly by the emperors, for few
vate fortunes could suffice to so vast a charge. They
e open to the public at first on the payment of the fourth
n as (*quadrans*), which is less than a farthing. Agrippa
ueathed his gardens and baths to the Roman people, and
igned particular estates for their support, that the public
ght enjoy them gratuitously. The splendid edifice now
wn as the Pantheon served as the vestibule to his baths.
a later period the bathers in some thermæ were
plied gratuitously even with unguents; probably it was
n all those built by the emperors. The chief were those
Agrippa, Nero, Titus, Domitian, Antoninus Caracalla and
cletian; but Ammianus Marcellinus reckons sixteen of
m, and other authors eighty. These edifices, differing
course in magnitude and splendour and the details of
arrangement, were all constructed on a common plan.
ey stood among extensive gardens and walks, and often
e surrounded by a portico. The main building con-
ed extensive halls for swimming and bathing, others
conversation, others for various athletic and manly
rcises, others for the declamation of poets and the
ures of philosophers—in a word, for every species of
ite and manly amusement. These noble rooms were
d and paved with marble, adorned with the most valu-
e columns, paintings and statues, and furnished with
ections of books for the sake of the studious who re-
ted to them. Their costly decorations have long vanished,
l the gradual accumulation of earth and ruins has choked
the vaults and buried the floors, yet enough still re-
ins to enable us to trace the general distribution of their
ts with tolerable accuracy and to intimate that the
criptions of ancient writers are not exaggerated. Those
he best preservation are the Baths of Titus, Antoninus
acalla and Diocletian.

The Amphitheatre of Arles.

It is difficult to know how to describe such a vast and
iously constructed mass. Exteriorly, we have before us
rey sandstone structure, oval in form, consisting of two
eys of pilasters, with windows or openings, the whole
ng from the ground a height of 70 to 80 feet. The lower
ey is Doric and the upper of the Corinthian order, and
g mostly composed of large blocks of stone, the surface
vonderfully entire. Where time or violence has seriously
naged the pilasters or arched openings, the French
ernment has effected repairs by the introduction of new
nes. Neither the large arched openings in the lower
ey, anciently used as the vomitoires or outlets, nor the
nings above, point inwards in a direction parallel with
h other. It is remarked that all the arches are con-
tric, that is, proceed towards the centre of the oval—an
angement which must have been accomplished with
ch additional trouble to the planner and builders.
hough now liberated from clusters of parasitic edifices,
building is not approachable on every point, for one
rests on an elevated part of the rocky knoll, which
rs the general unity of the exterior wall. The only
rance now in use is at the western extremity, through a
y arched passage to the interior of the structure.
lking forward, we are in the middle of a flat space, the
ginal though partly broken floor of the arena, and around
from the top of the podium or bounding parapet to the
nmit of the outer wall, are seen gradually ascending
's of stone seats. The rows, however, are greatly broken
some places, and in others they are entirely gone,
wing the ghastly fragments of arches which once sup-
ted them. The whole interior area, including the space
ered by seats, measures an oval of 459 feet in length
338 in breadth, and accommodated 25,000 spectators.
re never was any roof. All is open to the sky, but
n poles fixed in the upper part of the outer wall
nings were drawn across to shelter the spectators from
sun.

The "Moses" of M. Angelo.

Michel Angelo's celebrated statue of "Moses" in the church of S. Pietro in Vincoli, Rome, is considered by many to rival the grandest productions of the Grecian chisel. It is colossal in its size and represents him with that sternness upon his countenance which we may imagine was imprinted there when he rebuked the idolatry of his people. It was intended as one of the forty statues which were to ornament the tomb of Julius II. The monument, however, was never executed, only five of the statues being finished at the time of Michel Angelo's death. Of these three are in this church, one is in Paris, and the fifth in the Boboli gardens in Florence. The Pope himself was buried in the Vatican. There is a peculiarity about this figure which, majestic as it is, has often exposed it to ridicule. On each side of the head of Moses a small horn is just budding forth. "One critic," says Forsyth, "compares his head to a goat's;" and we often see the same peculiarity in paintings of the Middle Ages. What does it mean? In the original Hebrew the same word is used both for "horns" and "rays of light," and it was of course easy to confound them. When, therefore, it is said in Exodus xxxiv. 29, that as Moses came down from the Mount, "he wist not that the skin of his face shone," the Vulgate—the version of the Church of Rome—renders it, "Et ignorabat quod cornuta esset facies sua"—"and he did not know that his face was horned." It was this phrase, then, which probably led to the mistake and accounts for the manner in which both painters and sculptors were accustomed to represent the Jewish lawgiver. In the Authorised Version, indeed, precisely the same mistake is made with this word in another passage. In Habakkuk it says, "He had horns coming out of his hand.' It should of course be rays of light.

Style in Art.

The idea of style relates to something deeper than externals. It is indeed a principle—a reality in mind, and a characteristic of things as essential to their excellence as the substance of which they are composed. The stones and blocks which constitute a house are still the same materials, whether they are piled as taken from the quarry or chiselled and arranged with reference to form and symmetry; but no one will hold for a moment that they are quite as good and apt in the one case as they are in the other. View them in the humblest light, as merely affording shelter from wind and rain, the blocks that are compactly and symmetrically arranged will answer that purpose infinitely better than those which are rudely thrown together. But besides the elements of simple utility, we have an eye to be pleased and a sense of beauty and form to be gratified. To withhold from these the legitimate objects of their desires is to degrade man to the level of the brute, or at all events to prevent him from rising above the lowest state of savage existence. The acquirement of styles and modes of form is but the cultivation of intellectual tastes, and as these are elevated so rise men in civilisation and refinement. The cultivation of refined tastes may not be virtue itself, but it is undoubtedly one of her most potent allies; beauty, rectitude and chastity of mind can expand nowhere so freely as when surrounded by beauty and rectitude and chastity of external forms. The acquirement of mere materials cannot, therefore, be the ultimate object of our pursuit; we ought only to rest satisfied when we have adjusted and arranged them in proper form; in other words, when we feel that, according to the popular phrase, we have done what we designed to do in style.

Corbels.

Corbels are sometimes in the form of the modillion or mutule employed in entablatures, and also like the console of a window. Small semicircular towers projecting at the angles on perpendicular surfaces of large towers or other edifices are supported on a series of plain or moulded corbel stones. In some of the colleges in Oxford and Cambridge the mullions and roof of semicircular windows are supported in the same manner. The machicolations of towers are almost always supported on corbel stones, as may be observed in the old gates of Southampton, Canterbury and York. This projecting of one stone beyond another is technically called "corbelling out." This is done in brickwork as well as in masonry. In the interior of some churches the construction of the roof appears to be supported on corbels, the ends of which are often carved, and represent an angel holding a shield. In Norman architecture the cornice is supported by a row of corbel stones, the ends of which are also carved. In old English castles the main beams of the floors were frequently carried on large corbel stones, as at Porchester Castle. The term bracket is sometimes used for a corbel. Bracket, however, is better applied as synonymous with cantilever. Small wooden brackets often differ from corbels and cantilevers in being merely nailed to a perpendicular piece of wood and not having a bearing on a wall, as is always the case with corbels and cantilevers.

Correspondence

Re Architectural Association Photographic Competition.

Sir,—I wish to bring to your notice that a photographic competition is held annually by the Architectural Association Camera and Cycling Club and is open to all members of the architectural profession. The Council of the Association offer a prize of three guineas for the best set of prints submitted. The main conditions are as follows:—

1. The competition is confined to sets of photographs adapted for the purpose of architectural study.

2. Each set should consist of not more than twelve prints, and should illustrate one subject or class of subjects.

3. Copies of the winning prints by a permanent process must be deposited with the Architectural Association before the prize is presented to the winner.

4. Photographs must be sent to the secretary of the Architectural Association Camera and Cycling Club at 18 Tufton Street, Westminster, not later than October 1.

5. The judging will be first of all by the committee of the Camera and Cycling Club as to the prints having reached a fair standard of technical excellence, and will then be finally adjudged by an authority on architecture (not a photographer) appointed by the President of the Architectural Association.

The judge appointed by the President this year is Mr. Arthur Stratton. I shall be pleased to send further particulars to intending competitors.—I am, yours faithfully,

Francis R. Taylor,
Hon. Secretary Architectural Association Camera and Cycling Club.

"The Architect" Friezes.

Sir,—I thought it might be of interest to you and to your readers to know how "Three Beautiful Friezes" as advertised by you are to be found in out of the way places. I know the friezes well, particularly the Corn Field set, which I have in my dining-room. You can imagine my surprise—and may I say my delight?—when in Constantinople a month back, on paying a visit to a Turkish merchant, to find facing me in one of his rooms two of your three friezes. The two which he had round his room were the Corn Field and the Crafts series, by Galland. I expressed my surprise at seeing such familiar illustrations in such an unexpected part of the globe. My friend informed me that they were presented to him, and he declared them to be "Very good, very good." I wonder if any other reader has had such an experience. Possibly you will think it a waste of valuable space to publish this letter, but you will, I am sure, understand my satisfaction in seeing that even the Oriental was pleased to have examples of English art publication. I told him they were issued by an English newspaper, and have to-day forwarded him copies of your paper. Apologising for trespassing on your space, I am, &c.,

An Engineer.

Spread of Infectious Diseases by Public Libraries.

Sir,—In conversation with two gentlemen connected with the medical profession the other day, I was informed by them that in their opinion the spread of infectious diseases was caused largely by the loan books issued by public libraries, and that a systematic cleaning and fumigating should periodically take place. Possibly this is done, although I have never heard of it. Surely our public authorities should look seriously into the question. I am living a few doors from a public library, where I am in the habit of dropping in on Saturday mornings, and when I first of all enjoy half an hour with your valuable journal, and it struck me that possibly you would find space for either a paragraph, or this letter from—Yours faithfully,

A Lover of Architecture.

GENERAL.

Mr. William Clarkson, sen., F.S.I., has been appointed a Justice of the Peace for the Tower Division of the County of London.

Mr. Charles R. Burton, architect, of Warrington, was drowned in the Mersey on Tuesday.

The Northamptonshire Education Committee are abou to retain the services of a consulting architect for the yea ending September 30, 1906. The gentleman appointe will not be required to give his whole time to the work but he will not be allowed to submit plans to the committe during his tenure of office. All applications must b received before noon on September 4.

The Building Committee of the Manchester Infirmar have, on the suggestion of the architect, recommended tha the current contract be extended so as to include the building of the walls to the height of the first floor, and th laying of a concrete floor to form a protection to the nev masonry during the winter.

The Southern Life Assurance Company received forty-si sets of designs in response to a recent advertisement fo competitive plans for their new chief offices in St. George's Street, Cape Town. Six sets were disqualified for variou reasons. The directors awarded the first prize of 250 (Design No. 30) to Mr. John Lyon, Argus Chambers St. George's Street, Cape Town. Mr. Lyon was trained i Aberdeen.

Mr. Francis Fox, M.Inst.C.E., of Sir Douglas Fox & Partners, 28 Victoria Street, Westminster, London, who ha previously been in communication with the Town Council visited Ayr to inspect the Auld Brig last week. He spen about two hours in examining the structure itself, an devoted several hours to making himself acquainted wit reports and plans in the hands of the Corporation. Mr. Fox who proffered his services, will submit a report to th Council. An inspection of the bridge has also been made b Mr. John Strain, M.Inst.C.E., and by Mr. John Carruthers M.Inst.C.E., on behalf of the Society for the Preservation o Ancient Buildings.

The Applied Art Section Committee of the Society o Arts for the coming session will be constituted as follows:— Sir Owen Roberts (chairman of the Council), Sir Georg Birdwood (chairman of the committee), Sir William Abney Thomas Armstrong, George Frederick Bodley, R.A., Professor A. H. Church, Alan S. Cole, Sidney Colvin, Walte Crane, Henry Hardinge Cunynghame, Cyril Davenport Lewis Foreman Day, Alfred East, A.R.A., Arthur Evans Hon. Sir Charles W. Fremantle, J. Starkie Gardner, Willian Gowland, Gerald C. Horsley, Thomas Graham Jackson R.A., Arthur Lasenby Liberty, Seymour Lucas, R.A Sir Edward J. Poynter, Bart., P.R.A., Sir Walter S. Prideaux Halsey Ralph Ricardo, W. E. Riley, Alexander Siemens A. B. Skinner, R. Phenè Spiers, Hugh Stannus, H. H Statham, Sir Joseph Wilson Swan, Carmichael Thomas, Si John I. Thornycroft, Sir Thomas Wardle, Sir Aston Webb R.A., and Henry B. Wheatley (secretary).

The Improvements Committee of the Leeds Corporatio on Monday interviewed the candidates selected for th position of city engineer, for which a salary of 600*l.* a yea is offered. Mr. W. J. Steele, deputy city engineer, Bristo withdrew his candidature in consequence of his selection a one of the three candidates for an appointment at Newcastl The other selected candidates were:—Mr. T. Hewson, jun deputy city engineer, Leeds; Mr. E. B. Martin, unhealth areas engineer, Leeds; Mr. A. D. Greatorex, boroug engineer, West Bromwich; Mr. R. J. Angel, boroug engineer, Bermondsey, S.E.; and Mr. W. T. Lancashire deputy city surveyor, Sheffield. Before making a fina selection it was decided that a sub-committee should visi West Bromwich, Bermondsey and Sheffield.

Mr. James Lennox Houston, M.I.C.E., of 51 Cannon Street, London, formerly of Portobello, near Edinburgh and of Hong Kong, and of the firm of Messrs. Punchard Lowther & Co., engineers and contractors for public works has left property valued at 23,853*l.*

A White Paper has been issued giving an approximat estimate of expenditure under the Military Works Loa Acts of 1897, 1899, 1901 and 1903. The total sum provide by these Acts for defence works, barracks, including completion of large camps, ranges, with accommodatio for manœuvring and mobilisation, and staff and contingencies was 20,810,500*l.* The actual expenditure to March 3 1904, was 10,256,729*l.*; the estimated expenditure in 1904- is 3,250,000*l.*, and for 1905-6, 2,915,000*l.*

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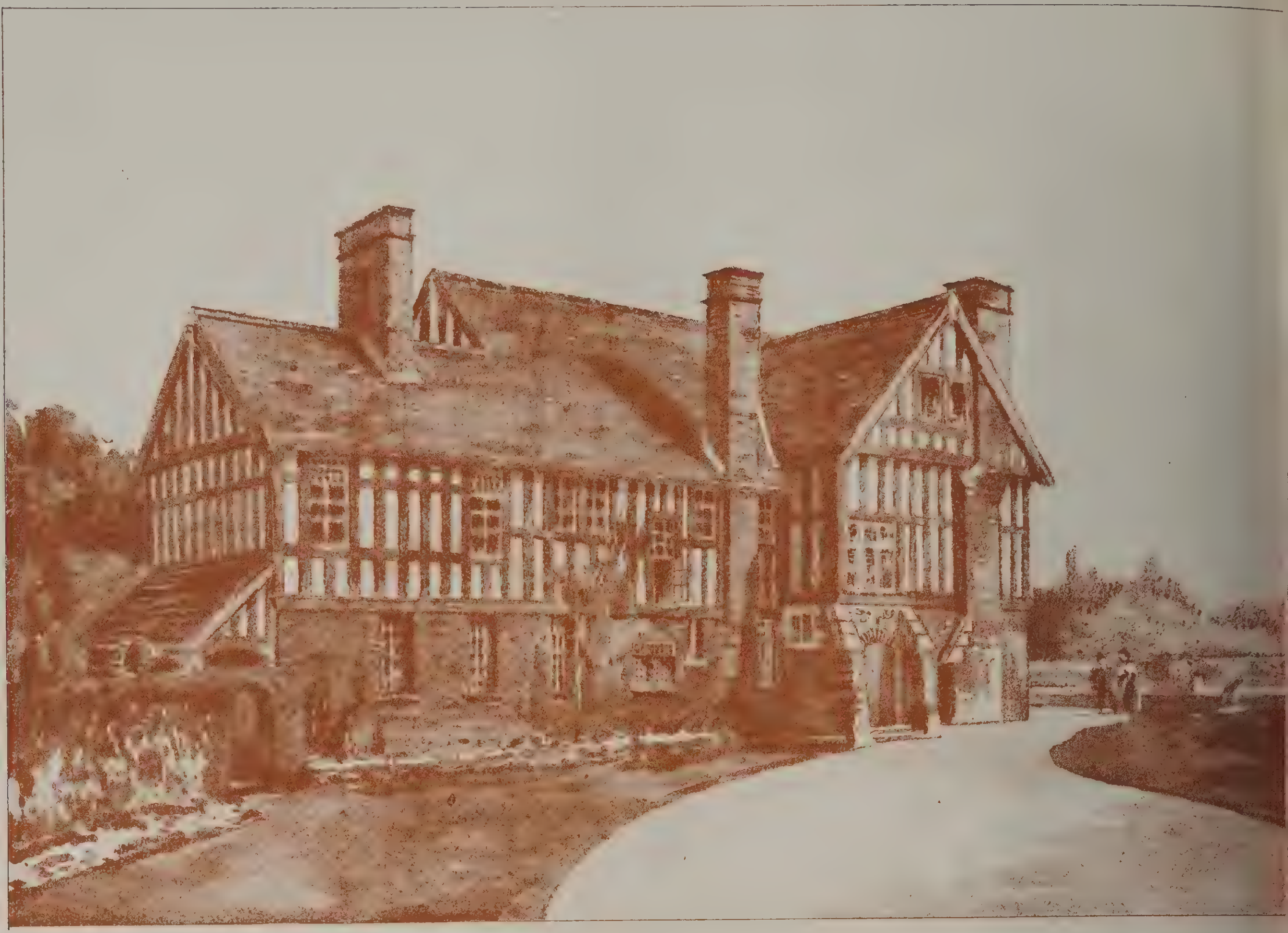
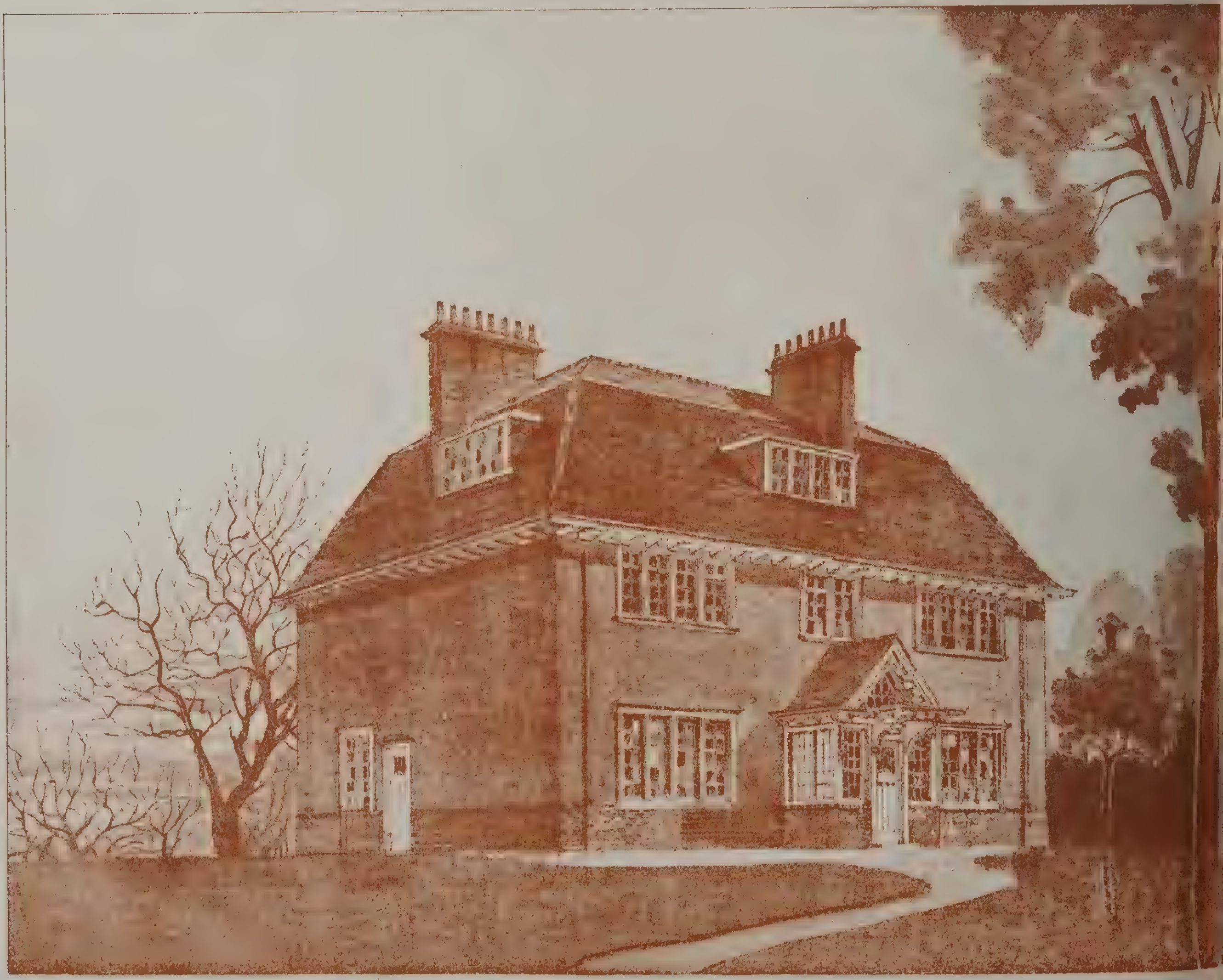


"MOUNTFIELD," REDHILL, SURREY.

H. D. SEARLES WOOD, F.R.I.B.A., Architect.



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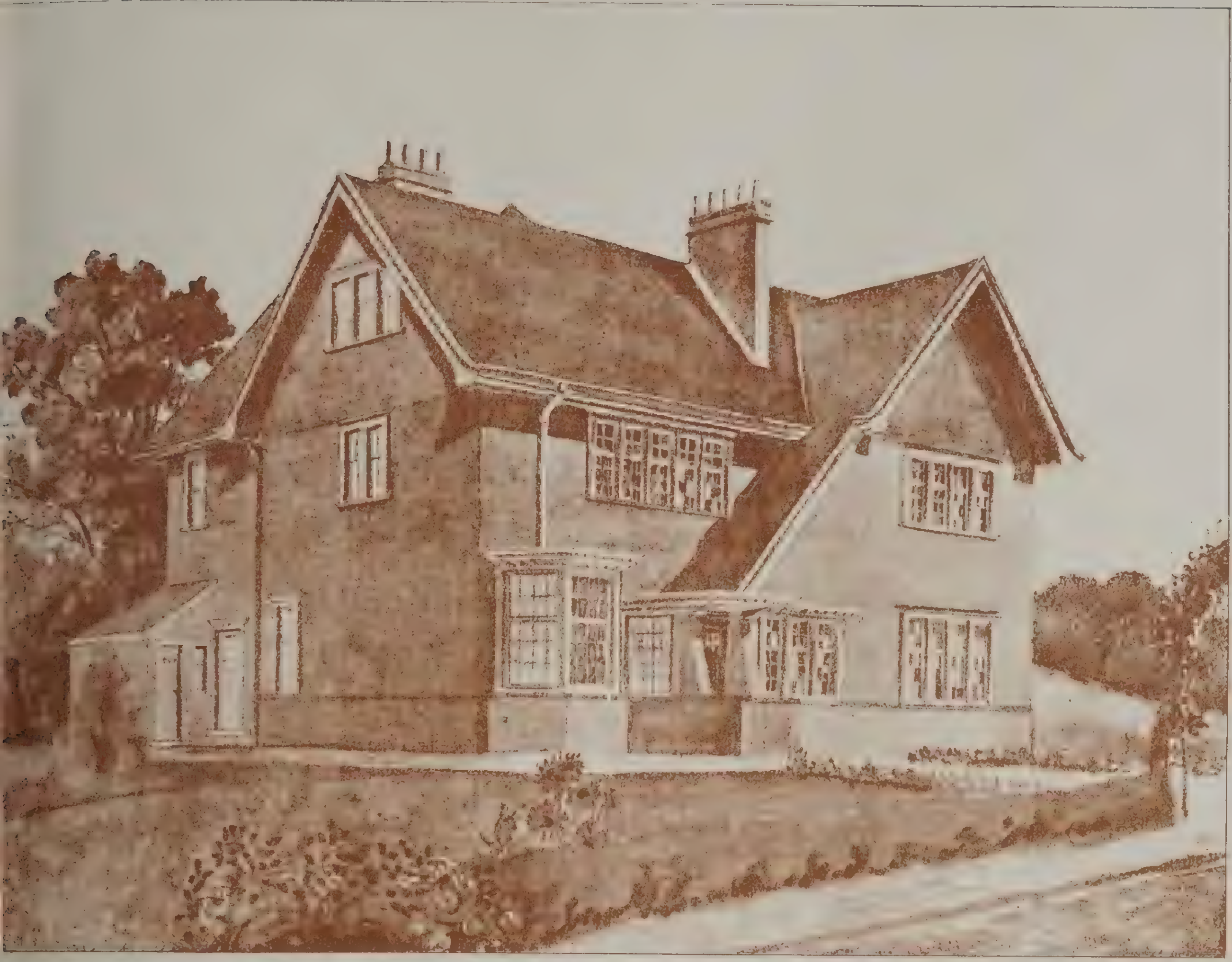
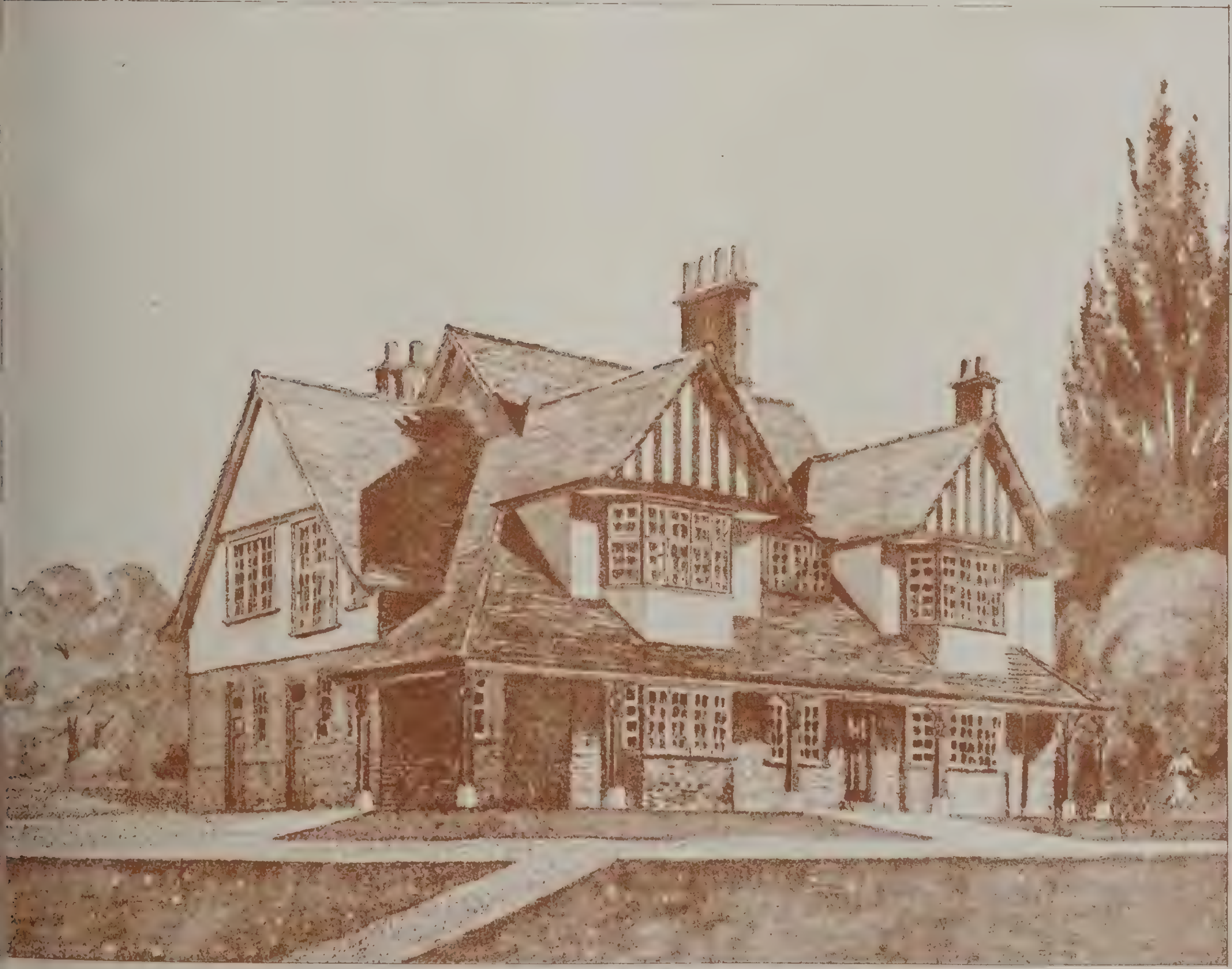
HOUSE, CHRISTCHURCH PARK, SUTTON, SURREY.

H. D. SEARLES WOOD, F.R.I.B.A., Architect.



DESIGN FOR HOUSE. H. D. SEARLES WOOD, F.R.I.B.A., Architect.



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"REDCOURT," CHRISTCHURCH PARK, SUTTON, SURREY.
H. D. SEARLES WOOD, F.R.I.B.A., Architect.

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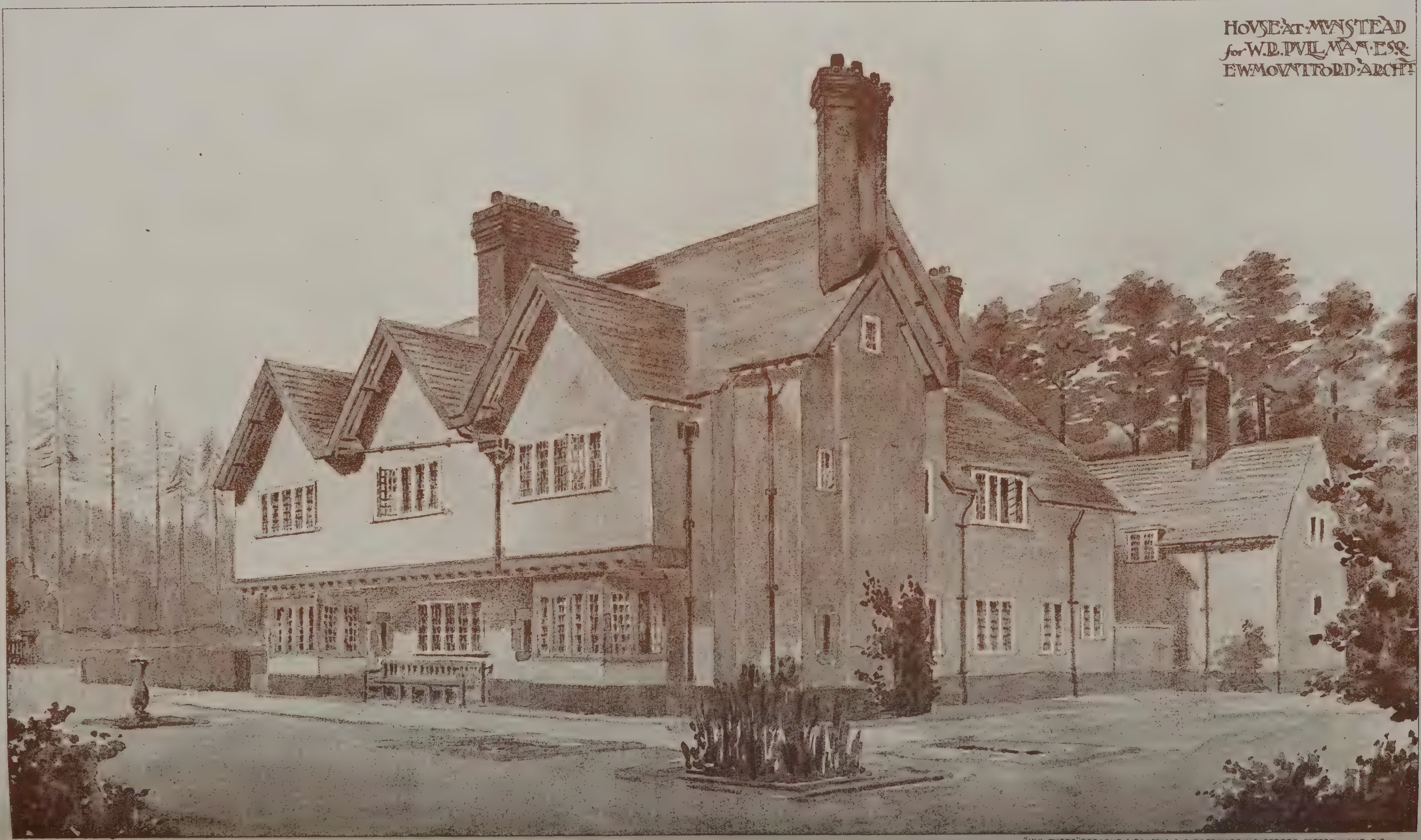
HOUSE·AT·MUNSTEAD
for W.D. PULLMAN·ESQ.
E.W. MOUNTFORD·ARCHT.



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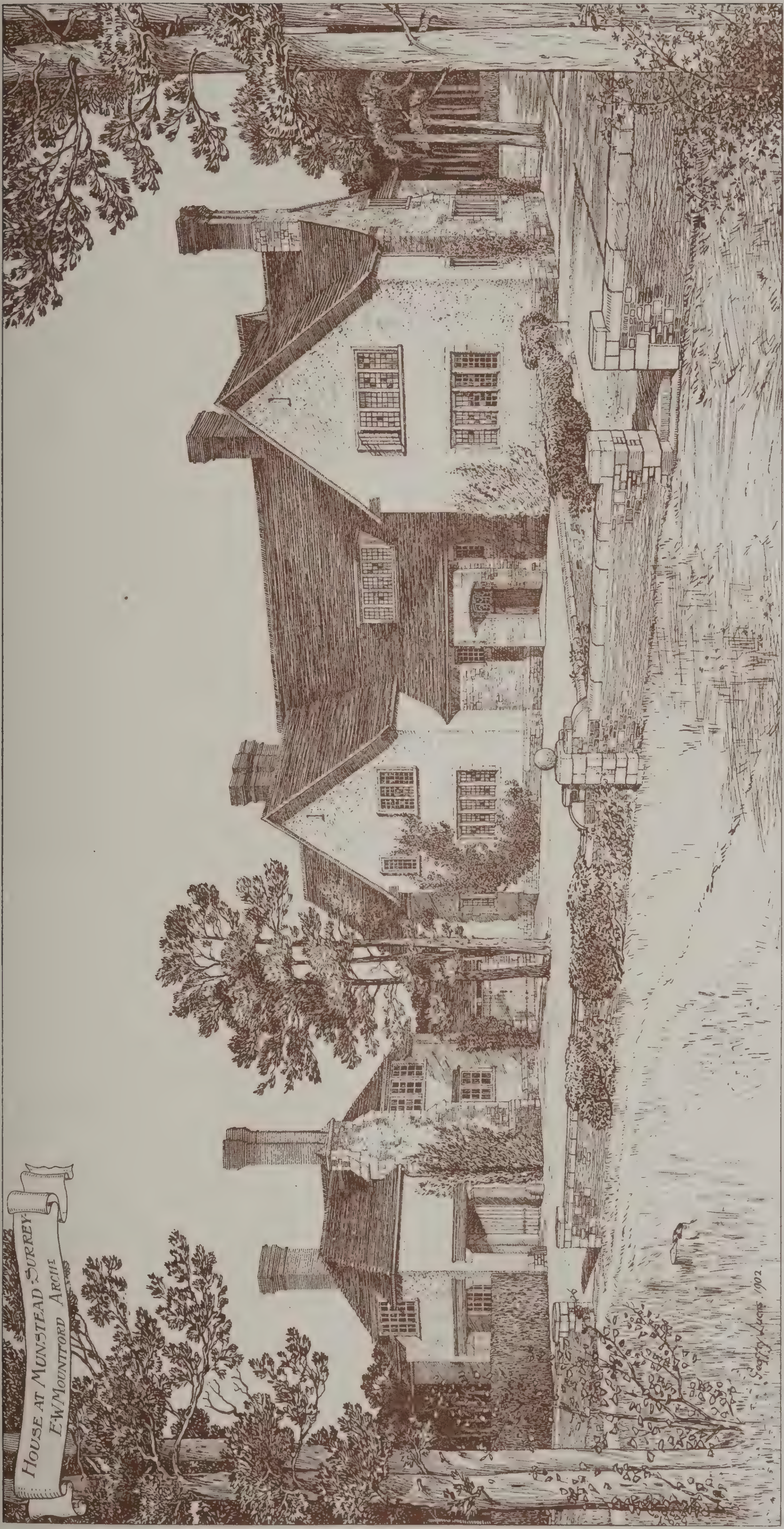

HOUSE AT MUNSTEAD SURREY.
E.W. MOUNTFORD ARCHT

Geoffry Lucas 1902.

PHOTO-LITHO SPRAGUE & Co Ltd 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

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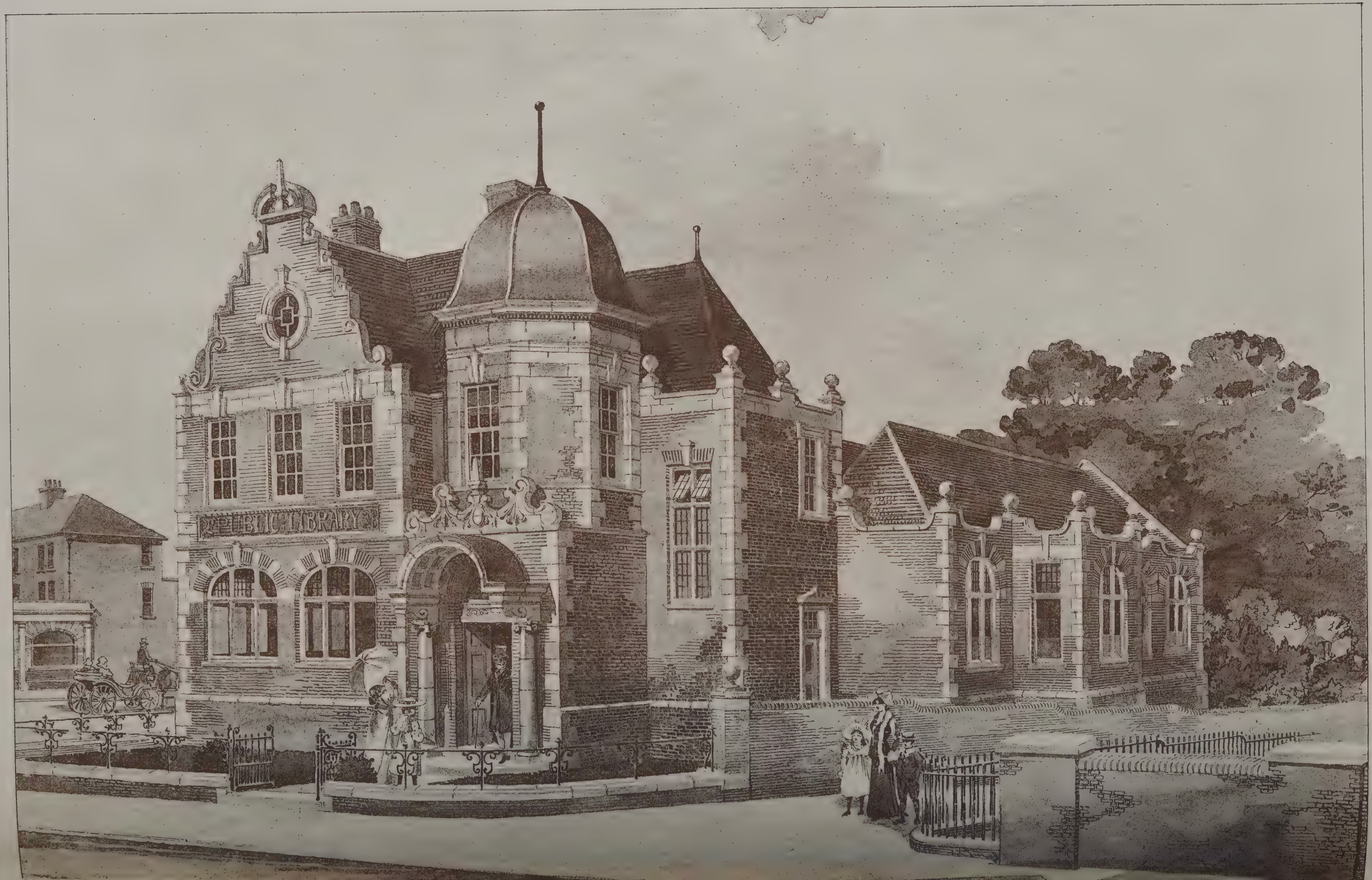
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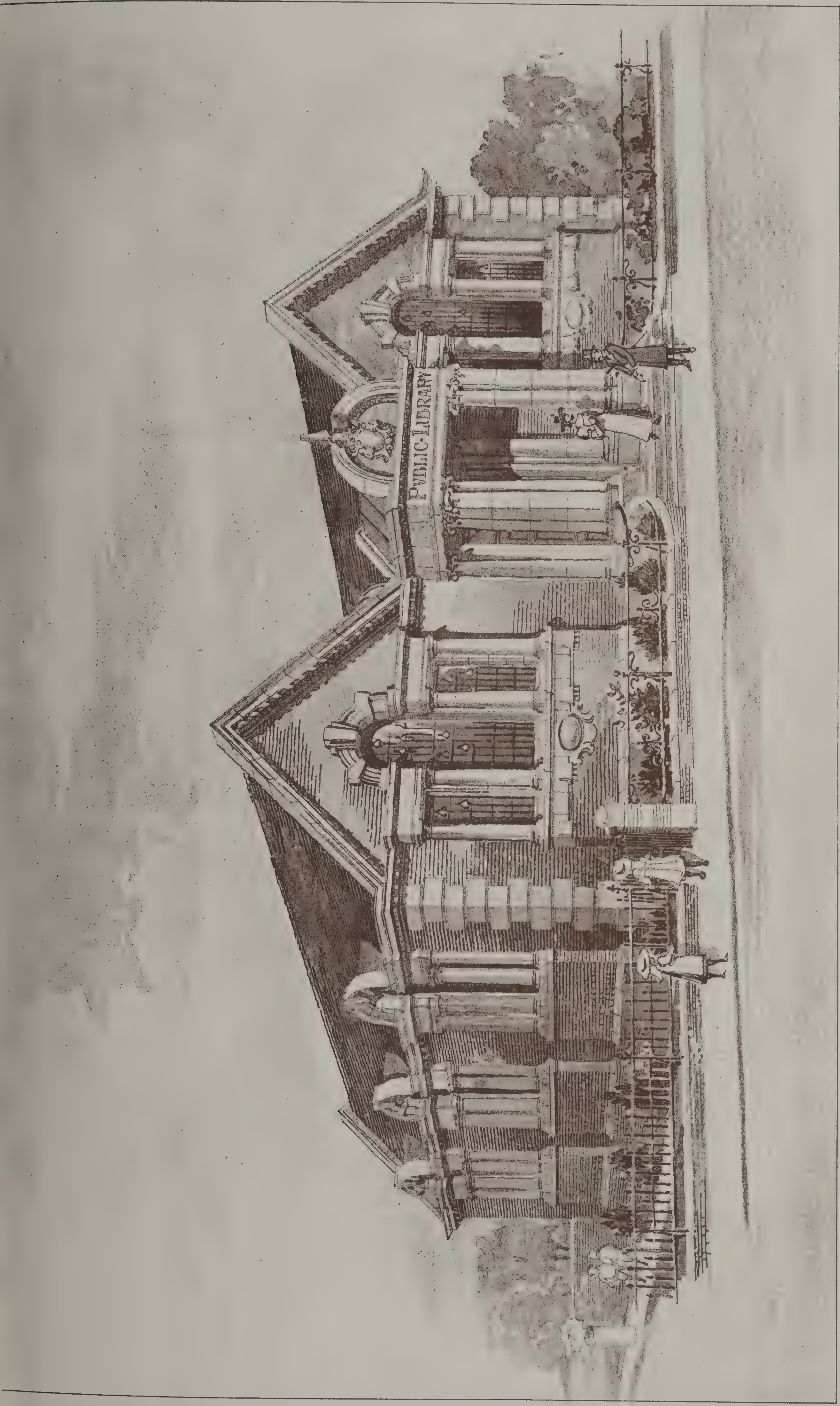

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ALBERT L. GUY, F.R.I.B.A., Architect.

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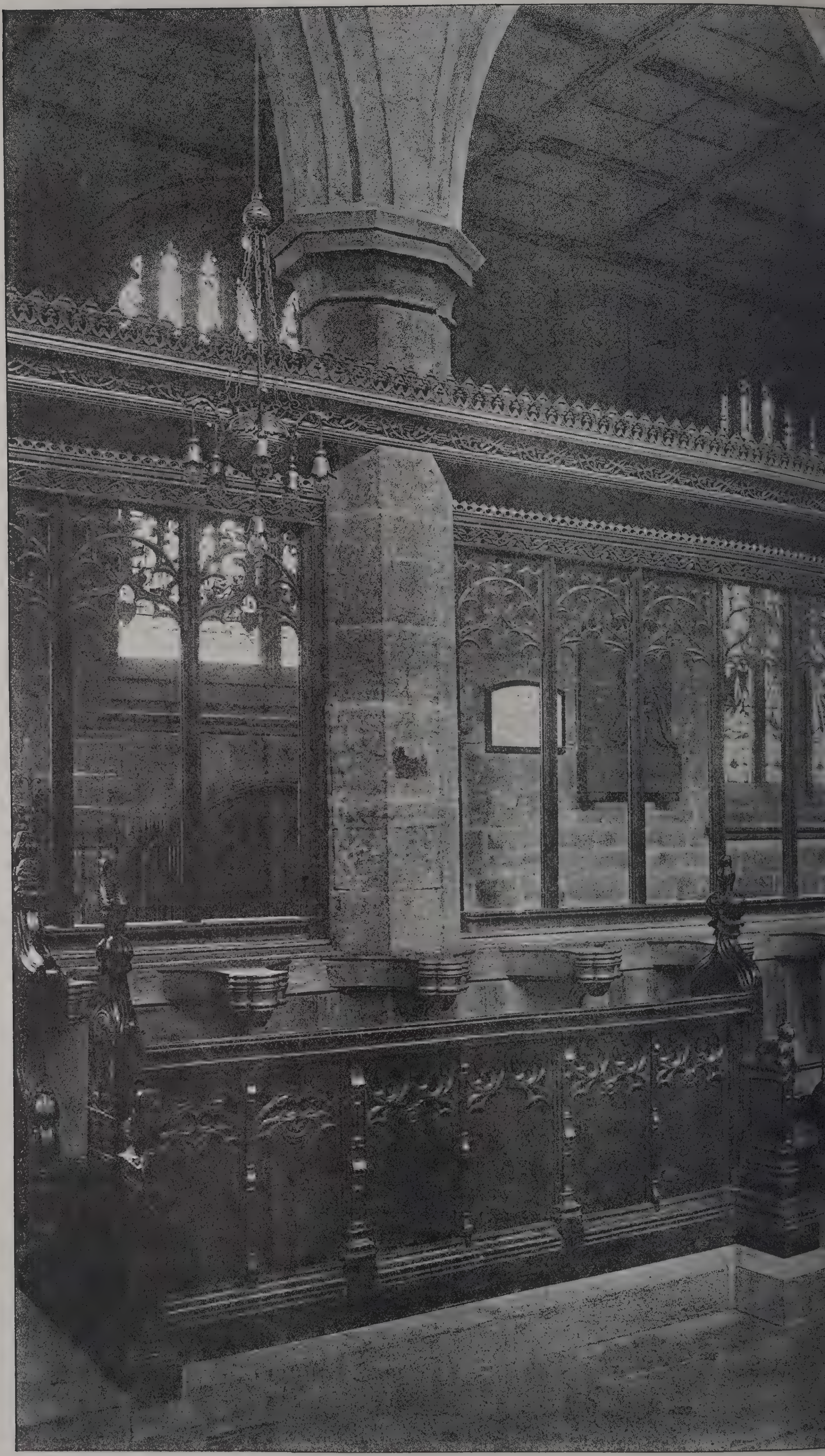
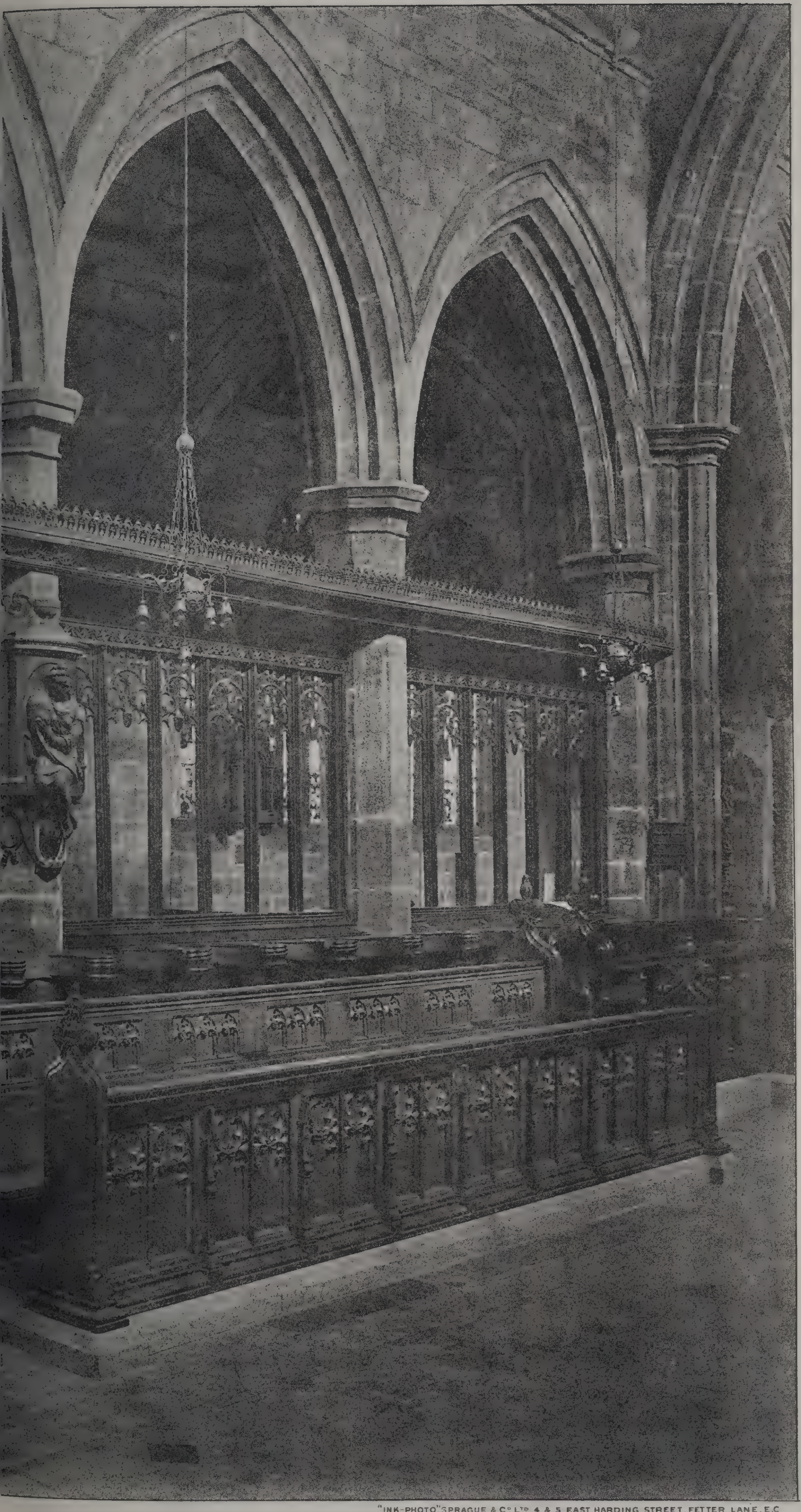


PHOTOGRAPHED BY CHAS. R. H. PICKARD, 5 PARK LANE, LEEDS.



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LD: The South Choir.

The Architect.

THE WEEK.

The Liverpool Corporation cannot be said to be acting fairly towards Mr. Stirling Lee or towards St. George's Hall in neglecting to complete the series of bronze panels which would impart so much animation to the lower portion of Elmes's building. Those which have appeared were subjected to much criticism from people who were ignorant of the office of sculpture in connection with architecture, and the Corporation succumbed as if they were not aware how many works of art have been treated similarly to Mr. Stirling Lee's panels. A great injustice is done to the sculptor, because anybody would suppose that he was incompetent for the task he had undertaken. Mr. Stirling Lee has been patient during several years, but he has at length appealed to the Lord Mayor in order to obtain his influence for the completion of the work. He writes:—"I am encouraged by the approval of my work done, by my fellow artists, to ask you to be allowed to finish what is my life's work; the scheme sketches are all thought out and made for the whole building and twice approved by the Council, but have not yet been executed. Should the City Council not see their way to expend the small sum of 1,000*l.* a year for six years to finish one part of the finest modern building in Europe, there may be some citizen who would like to be associated with the work of completing St. George's Hall." Mr. Stirling Lee realises the peculiarity of his position, that an artist should plead for a city and his work, and not that the city should be desirous for the artist to finish its greatest public building. He cannot believe the completion of the building is a matter of indifference to Liverpool citizens. As yet the letter has not been submitted to the Corporation.

The ingenuity of the Americans in turning materials o account which other peoples consider useless products of nature has received a new illustration. Sea-grass s common on the salt-water marshes of China. It has a pliability and strength which suggests that it could be utilised profitably. The colour is of a greenish-yellow. The Chinese have employed the grass for several purposes, but apparently it did not seem to them o be adapted for making furniture. Two American citizens, who were exploiting in the hope of turning the ndustrial resources of China to their own profit, ealised the applicability of the grass for some articles f furniture, such as chairs and small tables, when used n connection with bamboo frames. According to the American Consul at Amoy, the natives are now imitating he Americans, and a new industry has been created. The freight is heavy owing to the bulk of the articles, ut the Consul believes there will a great increase in he export of bamboos and sea-grass for the manufacure of furniture in the United States.

Paintings of devotional scenes are not much ap-reciated in exhibitions of the Salon. Yet when *A Religious Service in the Skaergaad*, by Albert Edelfelt, ppeared on the walls it was admired not only for its ovelty, but for its sincerity. It represented the coast a small island on a Sabbath morn. The pastor has owed himself across the channel in a little boat, and ands at a table which serves for altar and pulpit. The landers are of a northern type, and their features are ndered with ethnological accuracy. The congregation nsists of children, toilers of the deep and old people, l of whom appear to have but one thought. The cture was purchased by the French Government, for though Edelfelt was one of the Finns who were condered dangerous by Russia, loyalty to an ally could not event recognition of art. In all his paintings Edelfelt as true to the north. Unlike many other strangers who become enamoured of French art, he never sacrificed the style which he believed to be Finnish. All he saw in the studio of the late M. Gerôme, under whom he studied, only confirmed his original characteristics. It was not merely by his pictures that he endeavoured to win sympathy for his race. He was an active politician and one of the most eager opponents in the Finnish Diet of the Russian policy, which has for its aim the annihilation of a race who still preserve the love of liberty belonging to the early Arians, and who probably are the oldest Asiatics settled in Europe.

The Town Council of Warrington are not always successful in their arrangements. The fact that the taking of proceedings under the Public Bodies Corrupt Practices Act against two members is under consideration suggests that a thorough reform is needed. A subject over which some obscurity seems to hang is a claim by Mr. J. Lawson, arising out of his contract for the extension of the waterworks. The amount of the original contract was 24,400*l.* It is said, however, that the amount claimed will be more than double that sum. Many of the items were settled by the town clerk, but it will be necessary to submit others to arbitration. Both parties desire that the proceedings should be conducted in a friendly spirit in order to lessen expense. What is remarkable is that at the meeting of the Council when the subject was discussed there was no mention of any opinion given by the engineer. According to one of the members of the Council none of them, including the chairman of the water committee, can be said to have any knowledge of the matter that is in dispute. The consideration of the subject has been adjourned for a month.

Very few experiments have been made on glass which is used for windows, and the results of one obtained under novel circumstances are worth recording. In some parts of Ireland firing into a dwelling-house is not an uncommon crime. An outrage of this kind at Drumdoe, in county Roscommon, which was alleged to have occurred on July 11, was reported to the authorities. The inspector-general of constabulary ordered a rigorous examination of the window, and ascertained that its condition could not be taken as evidence of a crime. Some of the glass was found to be lying outside the window, and the part of the broken glass which remained in the sash was seen to lean outwards. Experiments were then made on glass in window sashes. A shot was fired from a fowling-piece through one of the panes. The results presented a totally different appearance to the breakage in the house. Further experiments showed that the passage of bullets or similar projectiles through glass is accompanied by certain results which do not vary, the glass being chipped and marked in a peculiar and very characteristic manner in each instance only on the side of exit of such projectiles. These characteristic marks differ according to the nature of the projectile and the rate of velocity at which it is travelling. With such marks as an infallible guide, it is possible to determine accurately from which side of a broken pane of glass a bullet has come. The peculiar characteristic marks exist on the outside of all the panes of glass at Drumdoe, which appear to have been broken by bullets or similar projectiles. It consequently follows that these panes could only have been broken by some person or persons who were inside the house. The inspector-general of constabulary has therefore arrived at the conclusion that no genuine attack from the exterior was made on the house. There was a time when a less elaborate and less scientific mode of inquiry would have been followed, with the possibility of several unfortunate fellows having to suffer for misdeeds which they did not commit. We may look at the investigation as an example of architectural jurisprudence—a subject which has received attention on the Continent although ignored in British courts.

ARCHITECTURAL EDUCATION.

THE holidays are scarcely over when announcements appear of the architectural classes which are about to open. A student in London has many opportunities for instruction awaiting him. University College, King's College, the Architectural Association School, the College of Art and various polytechnics and schools of art are all ready to take him by the hand and to reveal to him the mysteries of the art. In the provinces and in Scotland students have likewise facilities offered to them. In the School of Art, Glasgow, there is an array of professors which in number at least is not surpassed in the Metropolis. There is a director of architectural studies, a professor of architectural design, a deputy-professor and professors for drawing from the life, drawing from the antique, drawing of ornament, modelling and decorative design; with others who teach the history of architecture, architectural construction, mathematics, descriptive geometry, mechanics, mechanics of structures, natural philosophy, chemistry, and geology.

In the day school of the Architectural Association there are courses which occupy two years, and a continuation school in which students can carry on their work. There is also an evening school with lectures on plane and solid geometry, Greek and Roman architecture and Classic ornament, elementary construction, English architecture, outlines of Mediæval and Renaissance architecture in Europe, elementary physics, formulæ and calculations, stresses and strains; materials, their nature and application; construction; iron and its uses in construction; drainage and water-supply; materials and construction, ventilation, lighting and heating; professional practice, specifications and estimates; land surveying and levelling, with various extra subjects.

All this machinery for the training of architects is, we need not say, a novelty in the history of education. Until University College, London, was established, there was no school or college available for the professional training of an architect except what was obtainable in the office where he was a pupil, and the foreign travel by which it was supplemented. The two English universities were true to tradition and ignored architecture. The Dublin University opened an engineering school, but architecture was omitted. There was a professor of architecture in the Royal Academy, but all he was required to do was to deliver six lectures in a session, and he could repeat them from year to year, or if he preferred absent himself from the lecture-room.

There is no denying that although systematic training did not exist able architects were produced in this country. "Where there's a will there's a way," and the saying is peculiarly applicable to education. In the early part of the nineteenth century a student who made a resolution to become a skilled architect would be likely to attain his end. But the men who had gone through the ordeal and had made their way were not always of opinion that their toilsome tracks should be followed by all students of the art. C. R. Cockerell, P. Hardwick and Charles Barry could be considered as representatives of the training afforded by working under an architect in an office, followed by the study of ancient remains. Yet when in 1856 they were appointed by their brother Academicians to devise a scheme for education in architecture, they did not declare that a change was unnecessary. Barry's scheme is known and is worth consideration. He proposed that the student of architecture should go through a course of elementary teaching at the School of Design, King's College, London University, or other institution for teaching art and science, and that for admission to the Royal Academy certificates of proficiency should be required. The subjects, according to Barry, were as follows:—

> (1) Geometry, trigonometry, hydraulics, hydrostatics, chemistry, optics, acoustics, geology and mineralogy, and mechanics as far as they relate to the powers and forces applied to the purposes of construction. (2) Nature and properties of materials used for constructive and ornamental purposes. (3) Principles of construction. (4) Drawing, perspective and sciography. (5) Drawing from the human form, from the life and from casts. (6) Freehand drawing from natural objects with reference to decoration. (7) Conventional treatment of such objects as applicable to architectonic decoration. (8) Drawing and modelling of ornament. (9) Drawing of the elements of each recognised order or style of architecture. (10) Drawing of the best works of the Greeks, the Romans, the Mediævalists, and the most eminent masters of the revival of Classical architecture.

The teaching of fine art or the higher branches of architecture should, according to Barry, be carried out within the walls of the Academy. It comprised:—

> Principles of—(1) Form, proportion, harmony, expression, outline and stability in composition; (2) ornamentation; (3) colour in ornamentation; (4) sciographic and orthographic rules and systems of composition employed by the Greeks, the Romans and the Mediævalists in architectural design; (5) studies of composition in the several distinctly recognised styles in ancient and modern times; (6) principles of the application of painting and sculpture in architectonic decoration; (7) principles of the application of high art in painting and sculpture in combination with architecture; (8) exercises upon designs of existing works with reference to the correction of what may be at variance with the true principles of art; (9) original composition emanating from the use of new materials in construction, and the omission of all that interferes with convenience and durability in the old or recognised styles, or that may be incompatible with modern habits, fashions and requirements, or unsuitable to the climate of the country in urban or suburban districts.

It will be observed that Barry had a definite idea concerning what was to be taught. He did not, for instance, expect a student to acquire very full knowledge of any of the sciences, but only so far as they related to construction. It is possible for a beginner to become bewildered by the vast extent of science. Drawing and conventionalising were to be treated in the same spirit as the sciences. It can also be said that the æsthetics suggested was restricted. The absence of history from the curriculum may be remarked. But when carrying out his system Barry proposed that a course of lectures should be given in each year upon the History and Literature of Architecture, with criticism upon existing works, excepting those of living artists. Although half a century has elapsed since Barry's scheme was prepared, we do not believe that a better one has been introduced. Unfortunately, painting was then, as now, in the ascendency at the Royal Academy, and the application of funds to the improvement of architects was not approved. No doubt there was one excuse—the absence of accommodation.

It is a misfortune that many beginners appear to think that by going through the courses contained in programmes of colleges and schools they will have attained all the knowledge that is necessary. Barry would no doubt have said that all he proposed was merely sufficient to enable a student to resemble a soldier who had been drilled, and who yet had to become acquainted with the practical part of his business. Although architecture is an art, and in all arts we are supposed to be unable to surpass the ancients, yet it is of a kind which demands unceasing studies. We must remember, too, that it is a science, and as such there are constant developments which have to be understood. "For my part," said Professor Donaldson in one of his addresses to students, "I cannot consent to restrict the pursuits, the acquirements, the knowledge, the talents of an architect to the narrowed limits of the immediate branches of professional science. This may do for the mere mechanic, but by such a rule the architect, as an artist and a man of science, cannot, ought not, to be measured." The knowledge which the Professor desired to see expanded is not to be acquired in one or two years. They are fortunate who can reach the standard which should belong to the representatives of so noble an art after the labour of their lives.

There is always a temptation in opening schools or classes of a novel kind to attempt an imitation of an academic system by which little value is set on knowledge unless what arises from the discipline employed in imparting it. In universities students at one time used to follow the exact routine of which their grandfathers had experience, and there was supposed to be a special virtue in adhering to the old ways. In architectural schools the students' discipline is in endeavouring to acquire competence to perform certain acts, such as drawing in perspective, designing buildings or measuring work. Mistakes are inevitable, and may be said to mark the progress. For work of that kind elasticity is more desirable than academic rigour. It is also well to prevent imitation of the style or manner of a teacher or teachers, who from their position need not trouble themselves about the changes which occur outside their classrooms. The Architectural Association has an advantage from the number of practising architects who are lecturers or instructors in the schools. It is also announced "that the work of the school is varied, to suit the requirements and state of knowledge of each student," a statement which no university professor of the old style could read with patience. Architects can also supervise the work done by their pupils, and their suggestions will be considered. The various classes are in touch with professional life, and in that way it is easy to create that "atmosphere of floating knowledge where every mind may imbibe somewhat congenial to its own original conceptions," which Sir Joshua Reynolds desiderated for the Royal Academy.

THE "ARABIAN NIGHTS" AND ARCHITECTURE.

IN the excellent letter which the late William Burges wrote to a student of architecture who had asked is advice about what studies he ought to follow, he old him in conclusion to cultivate imaginative literature. he works of moderns he recommended were those of ante, Chaucer, Shakespeare, Tasso, with "Robinson rusoe," "Undine" and the "Arabian Nights." The st three were likely to cause some surprise. "Robinson rusoe" is the record of "a handy man." But the abitation he made out of the ship and the extra shelter hich served him for a country house were not works f architecture. "Undine" may be regarded as a fairy le, for it is the history of a water-nymph who follows mortal, and when reading it we care little about alaces or temples. The "Arabian Nights" is a work hich must always be delightful to an architect, because recognises buildings of various kinds as accessories.

In our prosaic days the limiting of expenditure on a uilding is the primary consideration when designing it. the architect can suggest that it cost more than the uilder was paid, a client would not object. The conquence is that only a limited variety of materials can employed. William Burges was not a man to care r commissions for buildings of that kind. No one uld imagine his taking part in a competition for cheap ttages. He gave a new aspect to the town of Cardiff his works at the castle. But the wealthy shopepers who gazed on the beautiful materials which ere utilised were afraid to offer him a commission. e must have revelled in reading about buildings, rniture and plate, jewellery and other objects which longed to people to whom apparently "money was no ject."

Another consideration was the happiness which the rabian architects must have enjoyed by having jinnee their command. They cared nothing about trade sputes. The story of "Aladdin," although the most mous of all, belongs to a period of decline, and for all know to the contrary was a foreign production. But stories of that class are useful, for they exaggerate the qualities of the original legends. Now when Aladdin wants to erect his wonderful palace he says to the jinnee, who is the slave of the lamp, that he will leave the choice of the materials to him. However, the walls are to be built of porphyry, jasper, agate, lapis lazuli and marbles of various colours. It was essential that in the topmost storey of the palace there should be a large hall with a dome and four equal fronts. The courses, instead of being of bricks, were to be alternately gold and silver blocks. He was to have twenty-four windows to the hall, but one was to be temporarily left unfinished, and they were to be enriched with diamonds, rubies and emeralds, excelling everything then to be seen in the world. About the arrangement of the other parts of the palace, the treasury, museums, storehouses, it is superfluous to speak. Burges would have been able to erect such a palace if the opportunity were given to him, and it may be a good exercise for a student to attempt to realise it on paper. In the usual illustrations of the "Arabian Nights" the figures are prominent. But in the tales the backgrounds are deserving of more consideration than they have received. If any one is sceptical on this subject they have only to turn to the delightful poem "Recollections of the 'Arabian Nights'" which Tennyson wrote in his youth. He ignores the characters, but dwells on Bagdad shrines of fretted gold, high-walled gardens, the sward appearing as damaskwork and deep inlay, and the embowered palms as piers of vaulting, the fluted vases, the carven cedar doors, the spangled floors, the broad-based flights of marble stairs, and Haroun al Raschid's throne with its six columns of pure silver and its draperies of cloth of gold. The impression which the tales made on Tennyson resemble those which they would make on an architect's mind. Both would rejoice in the existence of a time when a building was looked on not merely for shelter or for use, but for delight.

William Burges may also have thought that there existed a very close relationship between the Eastern works and the Mediæval churches. The clerics who accompanied the Crusaders must have been amazed at the use of gold and colour which met their eyes in Paynim buildings, and when they returned were likely to have adopted some of the characteristics which they admired. In Classic edifices such experiments would not be possible, but Gothic allowed liberties to be taken, and suggestions were derived from varied sources. We are not to be supposed as assuming that the book now known as the "Arabian Nights" is as old as the Crusades. Some of the adventures may have occurred in a far more ancient period. But although the book may have been composed or collected as late as the sixteenth century, the luxury described was to be seen in the East at a previous time.

Goethe regarded the "Arabian Nights" as a sort of abstract history of the human mind in the freest conditions, but it has also a local signification. The condition of affairs and the supreme power which kings and princes exercised, for instance, are exemplified with more than historical effect. An illustration is afforded in "The Story of Aboo Seer and Aboo Keer." One was a dyer, the other a barber. They visit a strange city, and the dyer discovers that the only colour used in it is blue. He is told that a stranger has no chance of setting up, and none of the dyers will employ one. Thereupon he complains to the king, whom he informs that he can dye "red of various hues, as rose-colour and jujube-colour; and green of various hues, as plant-green, and pistachio-green, and oil-green and parrot's-wing; and black of various hues, as coal-black and kohl-black; and yellow of various hues, as orange-colour and lemon-colour." And yet he could not find employment in the city as a workman, and was not allowed to set up as a master. The impulsive monarch declares his resolution to open a dyeing-shop for the stranger, and if anyone opposed he would be hanged. The king then summoned the builders and said to them:—"Repair ye with this master; go about the city with him, and whatsoever place pleaseth him turn out its owner, whether it be occupied by a shop or a khan or other building, and build for him a dyeing-shop agreeable with his desire. Whatever he commandeth you to do, do it, and oppose him not with respect to that which he shall say." The barber also has an idea. The city was a seaport, and the inhabitants could swim in the sea whenever they liked. But like many English watering-places at the present day there was no accommodation for those who could not enjoy open-air bathing. He brought a project for the erection of baths before the king, who was pleased at it, and the builders were ordered to construct baths for the barber wherever he pleased. This was despotism. But for an architect the existence of a king who could command and must be obeyed was preferable to the tedious procedure of valuations and arbitrations through which many excellent designs are jeopardised and at times never carried out. In the absence of kings and compulsory yielding of property without purchase whatever was desired in those happy days could be acquired through the possession of a seal or a lamp or some other talisman. One rubbed the seal of a ring and a genii appears and says, "At thy service! At thy service! O my master! Demand then, and thou shalt receive. Dost thou desire to build a town, or to ruin a city, or to slay a king, or to dig a river, or anything of that kind? For whatsoever thou demandest, it will happen." What an easy way it would be to reform officialdom and corporations and local boards if a few of those talismen were at the service of English architects.

In Burges's time there was an opposition to the use of metal in the constructive parts of a building. But he must have admired the wonderful "City of Brass," which is the subject of one of Shahrazad's tales. The Emeer Moosa with his army found that the walls were eighty cubits in height; there were five-and-twenty gates, which could only be opened by the initiated, and each gate had its double within the city. But it was a city of the dead. There was a market with silks and brocades interwoven with gold and silver upon various colours, a market of jewels and pearls, a market for the money-changers, the shops being filled with gold and silver, a market of perfumers. But the buyers and sellers lay dead. The invaders entered various palaces. In one was a dome constructed of gilded stones. Within it was a dome-crowned structure of alabaster adorned with emeralds. In it was a pavilion raised upon columns of gold. Inside were birds, the feet of each being emeralds, and beneath each bird was a net of brilliant pearls spread over a fountain. The Emeer wept when he saw all this wealth with no one to enjoy it. He removed part of it and closed the city gates.

All the glory of the City of Brass could not save its inhabitants from the common lot. The narrators of the stories never go so far as to suggest that the luxury which they saw or imagined made the owners happy. The Prince Kamar ez-Zeman is dying of love, so he was conveyed to a pavilion overlooking the sea. The floor was paved with coloured marbles; its ceiling was painted with the finest pigments of every colour and decorated with gold and ultramarine; there were silken carpets, and the curtains were of brocade adorned with jewels. Nevertheless, the beautiful surroundings were without any effect in abating his misery. The princess who was his lady-love possessed seven palaces. One was of crystal, another of marble, the third of the iron of China, the fourth of onyx and other precious stones, the fifth of silver, the sixth of gold and the seventh of jewels. But she refused to marry, and in the hope of converting her she was not allowed to see her seven palaces.

The history of the authorship of the "Thousand and One Nights" is unknown, and it cannot be decided whether they were the work of one story-teller or of several. They may have been written by somebody who possessed treasures resembling those he described, or they may have been narrated for the benefit of travellers in a khan by somebody who had no other means of living except the small donations he received for whiling away tedious hours. Men of that class would take pleasure in creating objects they could never possess. Whoever was the author he enjoyed works of art, and, what is more, the listeners must have had pleasure in the visions he conjured up before them. The quality of the things represented might not suit the taste of our times. A saloon with seven doors, walls covered with "royal gypsum" which would serve for a mirror, a gilded roof and inscriptions of gold on ultramarine would soon become dingy if found in one of our museums. Nor would an alabaster sofa adorned with gold and silver be taken as a model. But architecture and decoration have to be subservient to incidents which are invented with a facility which not even the great Alexandre Dumas could surpass. "The golden prime of the good Haroun al Raschid" is also over every page and is worth enjoying. William Burges knew by experience the advantage which the "Entertainments" can confer on those who, like Shahriyar, submit to be captivated by them.

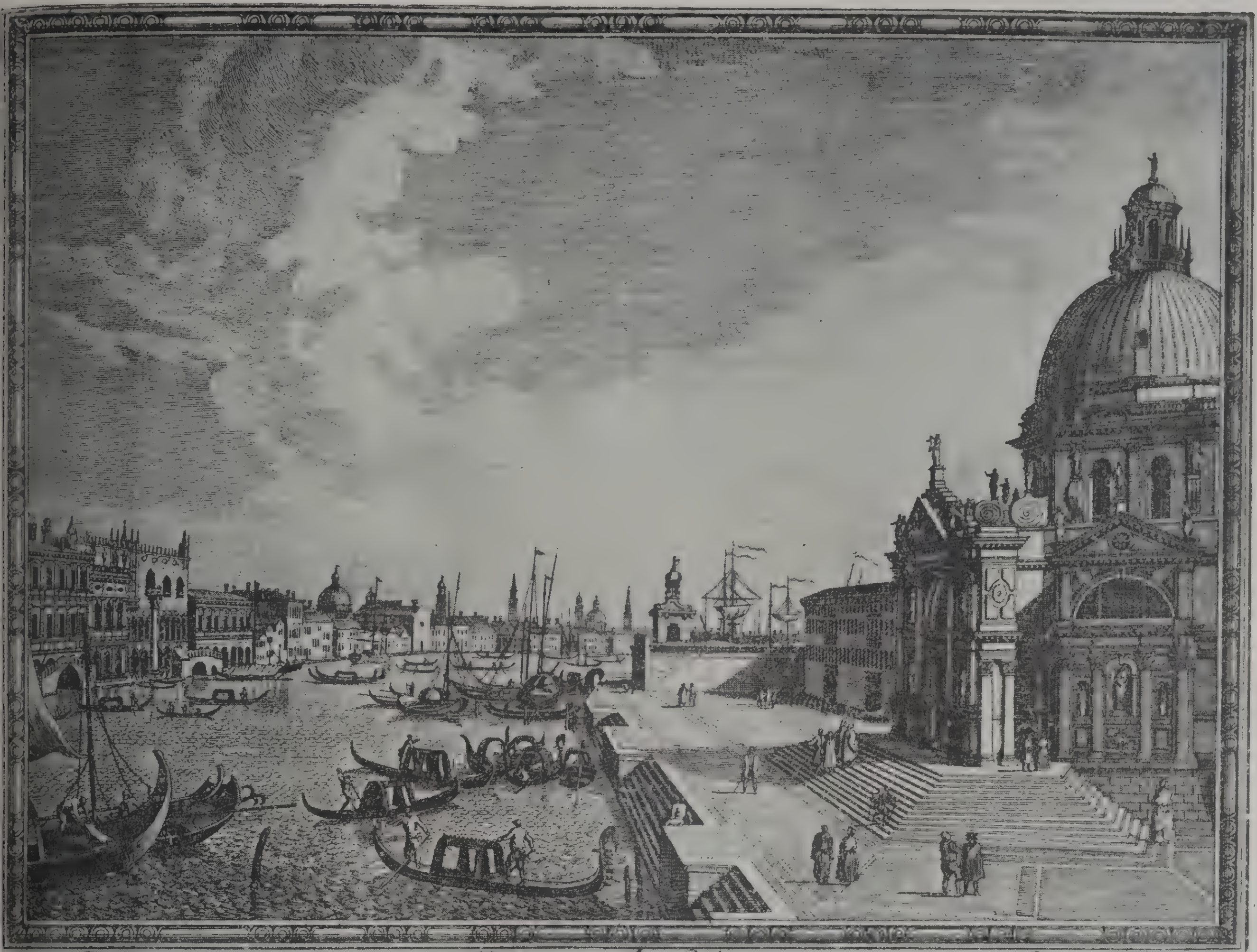
CANALETTO'S VIEWS OF VENICE.—VII.

The view we give this week is a continuation of one published in the last number. Canaletto appears to have had a peculiar fondness for the lower part of the Grand Canal. He has a fine view of the church of Santa Maria della Salute in the Louvre, and he gives prominence to it in the etching. The building, and others near it, continue to be fascinating to artists. Théophile Gautier says of it that the white cupolas are of a very gracious contour, and stand out against the azure sky "comme des seins pleins de lait." Then there are 130 statues on the exterior, and especially an *Eve*, which Gautier used to look for every morning when a beam of the sun illuminated it. If sanctified by art a nudity is not considered, he says, out of place when found on a church.

The building owes its title as well as its existence to one of those plagues to which Venice used to be subjected. In 1630 the city was devastated, and it was believed the suffering ceased through the prayers of the Virgin. As a memorial of gratitude it was decided to erect the church, and a commission was given to a Venetian architect, Baldissera Longhena. When completed in the gorgeous style we now see, it was entrusted to the congregation of the Somaschi, founded in 1508 by a Venetian priest. They were regulars and followed the rule of St. Augustine.

To a painter the church must always be attractive. When considered architecturally there may be defects in the details. But it expresses the gratitude of a people who were saved from death and wished to have a costly memorial of what was considered a miracle. Mr. Fergusson, although disposed to fault-finding, has to admit its success. He says of it:—

> Considering the age in which it was erected it is singularly pure, and it is well adapted to its site, showing it principal façade to the Grand Canal, while its two dome and two bell-towers group most pleasingly in every point o view from which Venice can be entered on that side. Externally it is open to the criticism of being rather overloade with decoration, but there is very little of even this that is unmeaning, or put there for the sake of ornament. Though certainly is a defect, yet, taking it altogether, there are few buildings of its class in Italy whose exterior is so satisfactory as this one is. Internally the great dome is onl 65 feet in diameter, but it is surrounded by an aisle, o rather by eight side chapels opening into it through th eight great arches, making the whole floor of this, whic is practically the nave of the church, 107 feet in diamete One of these side chapels is magnified into a dome, 42 fe in diameter, with two semi-domes, forming the choir, an beyond this is a small square chapel, an arrangement whic



A View from the Church della Madona della Salute to the end of the Grand Canal.

s altogether faulty and very unpleasing. As you enter the nain door, the great arches of the dome being all equal to ne another, no one of them indicates the position of the hoir; and in moving about it requires some time to dis-over where the entrance and where the sanctuary are laced. Besides this, going from a larger dome to a smaller, rom greater splendour to less, ought always to be avoided. n fact, if the church were turned round, and the altar placed here the entrance is, it would be a far more satisfactory uilding. As it is, neither the beauty of the material of hich it is built, nor the elegance of its details, can redeem e radical defects of its internal design, which destroy what therwise might be considered a very beautiful church.

The extract is characteristic of many of the criticisms "The History of Modern Architecture." Mr. ERGUSSON was confident in his own powers, and elieved he could transform buildings with advantage the tourist or the wandering critic like himself. He verlooked the fact that a large number of zealous ergy were attached to the church, and the experiment as made of planning the building in such a way that veral services could be conducted at the same time, d with less dissatisfaction than in a building on a cruci-rm plan. The church may be described as an octagon ithin an octagon, and a Venetian boatman would not ave the least difficulty on entering the church in rning to the altar where the service was being held in hich he wished to assist.

Later and more generous criticism is expressed in e admirable volume on "The Architecture of the enaissance in Italy" by the late Mr. W. J. ANDERSON. peaking of the Santa Maria della Salute, he says:—

Its exterior effect is the delight of painters, and a familiar object in most presentations of the scenery of the glorious sea-gate to the presence-chamber of the Queen of the Adriatic. Architecturally, few churches of similar extent in any age can rival it. The composition is mainly pyramidal, buttresses by the dome over the choir and the twin campanili; and the way in which the eye is led up from the irregular shape of the plan to the octagonal drum by the boldly shaped brackets, and from the octagon to the circular dome, evinces great ability and close study on the part of its designer. In the interior handling of the octagon, in place of Giuliano's coupled pilasters or Bramante's angular one, Longhena boldly places a column at each angle with good effect, and raises it on a pedestal to give height for his arches and disconnect the two orders.

BALDISSERA LONGHENA could not have been more than twenty-four years of age when the church was commenced. The beginning of Santa Maria must have been considered satisfactory, for in his thirty-sixth year he was appointed to the chief official architectural office in Venice. He designed other churches and palaces; he lived until 1682, and may be regarded as one of the last representatives of the Venetian school.

The building contains several important paintings, and especially examples by TITIAN at various periods of his life. The bronze candelabrum is a remarkable work by ANDREA ALESSANDRO, of Brescia.

The building which adjoins the church is the ecclesiastical college, and next to it is the Dogana, or customs house. By faking the perspective CANALETTO introduced on the opposite side the Mint, the Library, one of the columns of St. Mark, the Doge's Palace and the prison, buildings which to ordinary eyes appear further from the church than they are represented.

GOTHIC REFINEMENTS.

An exhibition of the photographs and drawings illustrative of Mr. W. H. Goodyear's discoveries of deviations in Mediæval buildings was opened in the Scottish National Portrait Gallery, Edinburgh, on Wednesday, by the Earl of Wemyss and March. The *Scotsman* has the following article on the subject:—

As we look back to certain periods and name them by what seems to mark best their place in evolution—the Stone, the Bronze, the Iron Age, or, it may be, the age of chivalry—so, when the present falls into that procession of the centuries which is called the past, it may perhaps owe its title to the machine. The machine in various forms dominates the world to-day. The shadow of this Frankenstein lies across its creator the modern man, whether his calling be that of the highest art or the least skilled labour. Nowhere is it deeper than on architecture—the meeting ground of the labourer and the artist. There, as elsewhere, the machine continually suggests its own qualities, and the suggestion reacting demands always more and more of these until there has developed a blind acquiescence in regularity, in mechanical precision, in the straight line, in the right angle, in the compass-struck curve, in the smooth surface, in uniformity of texture and colour, in identity of repetition—in short, in geometrical and mechanical perfection—an acquiescence which sometimes seems a passion. No one is concerned to deny that these things have their good side. For those, however, who have grown up among them, so that they seem part of the inevitable, it may be well to ask, Are there other sides? It may be taken as certain that there are, and the purpose here is to consider one of these in relation to recent researches.

Edinburgh is well supplied with modern "Greek" buildings, and the layman who looks at them is not to be blamed if he supposes (allowing for their difference in purpose) that they are built in the spirit of the art which inspired them. So they are—as a statue may be carved on the lines of the human body. But in them, as in the statue, the informing spirit is lacking, and within the last fifty years architects and the more interested amateurs have come to know why this is so. The reason was only discovered in the middle of last century; it is that in Greek work all the main lines were a series of curves and leans of a subtle kind, whereas in modern imitations, with the exception of the "entasis" on the columns, those lines are straight and rectangular. So in Greek work there is infinite irregularity in the spacings and in the smaller members—the capital, abaci, metopes and the diameters of the columns—while the moderns have reduced every part to mechanical regularity and repetition. The result, whatever merits of proportion, mass or outline it may have—and these must often be freely conceded—is comparatively lifeless.

The tradition of these lively variations doubtless came from Egypt to Greece, and for the last few years the question has been asked whether it died along with the latter's national life, or whether, like so much other lore, conscious and unconscious, it was handed on to Mediæval times through the medium of Rome or of Byzantium, or of both. If, indeed, there were kindred features in Byzantine Romanesque or in the more northern Pointed work, it seems strange that they should have escaped the zeal of the Gothic revival of last century. Yet, looking to the analogy of Greek work and its modern imitations, we see that there is reasonable ground for supposing that even important Mediæval characteristics may have been overlooked by the modern Gothic enthusiasts. It was about a hundred years after the modern study of the Greek monuments began that the definite announcement was made of the enormously important irregularities above noted, and of their intentional use by the old builders. The Gothic revival is not yet a hundred years old, and as Greek work refused for so long to yield up its traditions to students and to architects like Stuart and Revett, Cockerell, Playfair, Hamilton and Thomson, so it may possibly be that Mediæval work hid some of its secrets from the revival enthusiasts—and perhaps from many still hides them. In spite, however, of any ignorance of or indifference to certain phases of ancient or Mediæval art, no one who knows St. Augustine's, Pendlebury, and some other modern churches will deny the later standard-bearers of the Gothic revival unstinted praise for the loveliness of their work and their penetration to the heart of much of Gothic mystery—a contrast indeed to the poverty-stricken symmetry of a number of churches built not so long ago and still looked up to by many as the Be-all and End-all of Modern Gothic. Whether, indeed, there are still secrets is a problem whose solution should be helped by the exhibition of drawings and photographs above referred to, which has been organised by the Edinburgh Architectural Association. Interesting as this must prove, alike to architects, archæologists and amateurs, its interest is not lessened by the fact that this investigation into the dark ways of the dark ages is the work of a citizen of the most modern of all modern countries. Mr. W. H. Goodyear, curator of fine arts in the Museum of Brooklyn, U.S.A., a recognised Egyptologist and the author of a standard work on Egyptian and Greek ornament, has for some years back spent all his leisure time in attempting to answer the question which he asked himself (almost by chance) thirty years ago—Are not many of the irregularities that we see in Mediæval work the deliberate and intentional work of the builders? To his energy and perseverance the Brooklyn Museum now owes an important collection of surveys and photographs, and to the courtesy of the authorities of the Museum, as well as to Mr. Goodyear personally, is due this opportunity of seeing not only the original collection, but many exhibits which will now be made public for the first time.

It is not suggested by Mr. Goodyear that every crooked wall, or every deflected column, or every discrepancy in spacing of windows, doors or arches is intentional. The suggestion made is that we have been in the habit of attributing wholly to accident what now appears to have been largely deliberate. When the two main factors are eliminated — *i.e.* carelessness either in setting-off or in construction, and settlement, bulging or deflection of walls or piers, or other variations from the normal caused by insufficient foundations, earthquakes, or other causes acting through the lapse of years—there remains a considerable residuum which is difficult, if not impossible, of explanation by any cause except intention on the part of the builders. Great care is needed in the elimination of the merely accidental irregularities, and it may be taken as certain that for one building quoted as displaying refinements half a dozen have been examined and their irregularities relegated to the limbo of the unproved. Accidentally, the first example of what are claimed as intentional refinements was met with in Italy, and working from that the bulk of the buildings examined have been Italian. Starting with Italy, it seemed natural to continue the researches through the neighbouring countries. Farnce has already had a good deal of time devoted to it, but the turn of Great Britain has not yet come, and in this way it unluckily chances that we find no home examples in the exhibition.

Briefly, the probable aim and the actual character of what are looked on as refinements may be stated as follows:—The aim was, no doubt, those effects which actually result from them, and which may be summarised as (1) an avoidance of hardness and monotony, (2) a pleasant mystification of the eye, (3) perspective illusions resulting in an added grace or interest, such as an apparent increase of length or height. Their nature may be roughly divided into (1) refinements in plan, including setting-off which is not rectangular and which is sometimes curved, and arcades with unequal spacing of the columns, the commonest form being a diminishing space between the columns, starting from the west end of the nave and continuing to the choir; (2) refinements in the superstructure. These are many and varied. In the interior are included floors which rise from the west end to the choir, and, correspondingly, arcades whose capitals and arches are lowered as they progress in the same direction, these two, in combination with the last-mentioned refinement in plan, successfully producing an illusion in perspective which is occasionally increased by the dropping of the eastmost of the two arches at the crossing. Next in importance, perhaps, are outward leans in walls and arcades, and akin to these the appearance of upward curves, sometimes in the form of the Classical "entasis," sometimes in other forms. Horizontal bends in string-courses, galleries and in the lines of the clerestory are also to be noted. On the exterior the variety is not less great. There are leans and curves similar to those in the interior, and many horizontal bends and deflections the intentional character of which can hardly be disputed, though their definite purpose may still remain mysterious.

Whatever be their predisposition—whether to scepticism or to whole-hearted acceptance of these researches as a real discovery—neither architects nor amateurs can afford to pass by the opportunity which the exhibition now open in the lower rooms of the National Portrait Gallery will afford for a study of phenomena hitherto uninvestigated. The series of fine photographs enlarged to an unusual size s in itself a mine of interest, while their purpose is made lear in the illustrated pages of the full and analytical atalogue compiled by Mr. Goodyear. After the opening of he exhibition on Wednesday by the Earl of Wemyss and Iarch, it has been arranged that Mr. Goodyear will deliver wo or three demonstration lectures on the whole subject, o be followed by discussion by architects and others who re interested. It would hardly be surprising if in years o come this exhibition should be looked back on as the tarting-point of remarkable developments in modern architectural work.

TRURO CATHEDRAL.

THE Western and the Phillpotts (south transept) porches of Truro Cathedral have been lately enriched by gifts f new statuary. To the statues in the centre buttress of he western porch have been added the figure of Queen lexandra in her Coronation robes to the right of King dward VII., and that of Queen Victoria, represented as she ppeared at the Jubilee of 1887, to the left. These statues re the gift of a lady and gentlemen who wish to be nonymous. On the face of another buttress has been laced a stately figure of King Alfred, the gift of Miss ranks, in memory of a relative. The figure of King harles I., in deference to the wishes of many persons, has een moved to a niche opposite Queen Victoria. Over he southern arch of the western doorway is a panel representing the first Bishop of Truro (the late Archbishop Benson) t the laying of the foundation-stone of the cathedral. It is he gift of the Truro High School for Girls, of which r. Benson was the founder. To the small statues of the Moralities" in the spandrels of the same arch a figure of atience has been added by the society of invalids, known s the "Watchers and Workers." In the Phillpotts porch our niches have been filled with statues of Sir Humphry ilbert, Sir Bevil Grenville, Canon Thomas Phillpotts, of orthgwidden, the donor of the porch, and Mr. J. L. earson, R.A., the architect of the cathedral. These gures are the gifts respectively of Mr. C. Davies Gilbert, of relissick, and the Rev. W. R. Gilbert, of The Priory, odmin; Treasurer Thynne and friends, Mrs. Arthur remayne of Carclew, and Mrs. F. L. Pearson.

THE CAMPANILE OF ST. MARK'S.

HAVING just had an opportunity, thanks to the courtesy of the authorities, of going over the works for the estoration of the fallen Campanile of St. Mark's, I think, ays a correspondent of the *Morning Post*, it will be of nterest to British visitors to have some account of the resent state of the fragments and of the progress made the rebuilding of the tower.

Nearly three years and a quarter have elapsed since the ollapse of the Campanile, but to all outward appearances ot much difference exists between the condition of affairs ow and that which existed two years ago. The damaged orner of the Palazzo Reale is still enveloped in scaffolding, nd a high palisade still surrounds the site of the fallen ower. But in reality a great amount of work has been ccomplished—work which is not visible to the casual bserver. No fewer than 3,076 piles of the best quality of rch, from 12 feet to 17 feet in length, have been driven in s a foundation, and between the interstices a layer of strong ement has been poured. The foundations will be finished is autumn, and it is hoped that, barring unforeseen delays, e new Campanile will be completed within five years. At resent 55 men are at work every day, and the commission f two architects (Signori Moretti and Manfredi) and three ngineers (Signori Lavezzari, Orio and Donghi) has every eason to be satisfied with the work accomplished. The Iunicipality of Venice has voted 20,000*l.* for the restoration f the tower, the Italian Government has promised to give nother 20,000*l.* when the work is completed, and private ubscribers have also contributed a considerable sum. The uestion of money is, fortunately, not likely to affect the reerection of the Campanile.

A visit to the scattered remains of the old tower is ngularly interesting. The fragments are now deposited in ree separate places—on the ground floor of the Doge's alace, at the Giudecca and on the Isola delle Grazie. hen one sees the extraordinary material of which the old wer was in part constructed, one can only wonder that it id not fall before. Old pieces of masonry used for previous buildings were employed higgledy-piggledy by the Venetian architects, without regard to size or shape. Among the pieces are Roman tombs with the inscriptions still legible, bits of Byzantine architecture used in some church, scraps of Roman bricks, one of which still bears the names of Claudius and Nero, while others show the marks of animals' paws and of human feet impressed upon them when they were still wet.

No less than five kinds of mortar were found to have been employed in the construction of the tower, some of it extremely bad and almost devoid of binding qualities. Great care is being taken to avoid this mistake in the new building, for which strong cement from Casale Monferrato, in Piedmont, is being employed. And this is of primary importance, for, as Signor Boni has pointed out, the durability of the Roman buildings is largely due to the splendid pozzolana used in their erection.

Of the five bells of the old Campanile—all of them dated 1819, and therefore founded during the Austrian occupation—four were hopelessly cracked by the fall, though they have been patched up and will be fused for the new tower. The fifth is almost uninjured, except for a few indentations at the edge, and will be hoisted up as it is to its former position.

Among the curiosities revealed by the work at the foundations of the Campanile are the tusks of wild boars and the horns of stags which frequented the spot when the present Piazza di San Marco was a swampy brake, before the Venetians, in the famous phrase of Cassiodorus, "built their nests, like waterfowl," among the lagoons.

HEIGHT OF ST. PETERSBURG BUILDINGS.

THE United States Consul-General Ethelbert Watts has supplied the following information procured from the municipal board relating to the height of houses in the Russian capital:—

1. The height of private buildings erected in this city, regardless of the number of storeys, must not exceed the width of the street in which they are erected. Height is limited by the distance from the sidewalk to the point where the roof of the building begins. In public places and open spaces, as well as on streets having a width of over 77 feet, private buildings for living purposes must not be higher than 77 feet.

2. In case a building is erected on the corner of two streets of different widths the height of such building can be the same on both streets, even if such height should exceed the width of one or the other street.

3. The smallest height permitted for any building, regardless of the width of the streets on which they are erected, is limited to 12 5-6 feet, on the following basis:—(*a*) In those parts of the city which were not inundated during the flood of 1824, or where the water did not rise to the height of over 2 feet from the sidewalk, permission is given for the erection of one-storey buildings to the height of not more than 12 5-6 feet, counting the distance from the sidewalk to the beginning of the roof; counting from the sidewalk to the beginning of the floor, 2 1-3 feet, and from the floor to the roof, 10½ feet; (*b*) in those parts of the city where the water stood over two feet from the sidewalk the foundation must be carried to the height of 7 inches above the waterline of the flood, and the storey of the building must have a height of 10½ feet, counting the distance from the floor to the roof.

4. The erection of additional storeys on buildings is permitted only upon certified evidence that the foundation and walls are sufficiently safe to allow such erection.

5. In erecting buildings the height of living apartments is not permitted to be lower than 7 5-6 feet.

Permission is given to erect private residences on the quay of the river Neva and along the canal of the general Admiralty building without regard to the height limits herein enumerated.

The Painted Hall at Greenwich has been thoroughly cleansed and renovated, with the exception of the ceiling, which was treated some twenty years ago. Two "blind" windows in the upper hall have been filled with clear glass. The pictures by Sir James Thornhill have been overhauled and rearranged by Mr. W. F. Yeames, R.A., the curator.

NOTES AND COMMENTS.

The interest which is supposed to be taken in cottages at the present time has had its effect on painters. It is natural they should try to treat subjects which are likely to be attractive. Mr. George Clausen, A.R.A., who this year has been one of the hangers for the autumn exhibition at Liverpool, said they had to deal with at least 300 drawings and paintings, all of which had the same subject, viz. a mouldy thatched cottage with a white road, a wall, and three geese. Such a subject is not heroic or adapted for the exercise of great powers, but the selection of it suggests the kind of influences which are in operation, and to which painters submit.

If any Belgians were present at the conference of the Associated Chambers of Commerce which was held in one of the buildings of the International Exhibition at Liège on Tuesday, they must have been amazed when they heard of the manner in which some of the English canals are worked. Belgium owes much of its prosperity to the facilities offered by the system of canals for economical transit of goods. To listen to the statement of Lord Brassey, that on some of the British canals the traction was accomplished by the agency of an old horse conducted by an old woman at the rate of a mile an hour, must have amused the shrewd Belgians who might hear it. In the industrial competition against the world all kinds of aids should be turned to account. There was good reason for the following resolution, which was adopted :—"That it is desirable to appoint a Royal Commission to inquire into the condition and the position of the canals and internal navigation of the country, to report thereon, and to make such recommendations as may appear necessary, and that the President of the Board of Trade be invited to receive a deputation upon the subject."

St. Mary's Church, Eccles, is a Perpendicular building which stands on a site where there was a church from 1111. The curfew-bell still sounds from the low tower which serves for belfry. One of the chantries was founded in 1368; there are others which date from the fifteenth century. The building was restored in 1362. But at the present time there is an urgent need of further expenditure upon it. Mr. F. P. Oakley has reported on its present condition, and according to him "the whole of the ancient part of the church is badly in need of repair. Except as regards the clerestory—which ought to be taken in hand at once—there is no immediate danger to the building, but the stonework generally has reached the point where further decay will be much more rapid than it has been up to now. As regards the probable cost, it is impossible to speak with absolute certainty—guessing, guided by previous experience, is practically all that is possible; probably it will cost about 2,000*l.* to do all that should be done and put the building in a proper state of repair, and of this you must quite certainly face spending about 1,000*l.* at once. As regards the clerestory, practically all the windows should be taken out and rebuilt, using as much of the ancient stonework as possible. The glazing must be entirely renewed. The south wall shows signs of being in a very bad condition, and it may be necessary to rebuild it, but it is impossible to be certain about this until the wall is opened out. The whole matter should be undertaken at the earliest possible moment. The longer it is left the more expensive and the less satisfactory it will be in the long run. Water is now finding its way in, and that means certain and rapid disintegration." The committee now appeal for the money which will be required, and they consider that the historic associations should have interest for others besides the parishioners, and contributions will be received gladly.

The ordinary general meetings of the Architectural Association will commence on October 6, when Mr. E. Guy Dawber will deliver the presidential address and there will be the distribution of prizes. The following papers are to be read at the succeeding meetings :—"London City Churches" (illustrated with lantern views), by Mr. Andrew Oliver; "Old Manor Houses," by Mr. J. A. Gotch; "Turkish Architecture" (illustrated with lantern views), by Mr. E. F. Reynolds; "Church Towers and Spires" (illustrated with lantern views), by Mr. W. H. Bidlake, M.A.; "The Consideration of Sculpture by Architects," by Mr. F. Lynn Jenkins; "Differences between English and French Gothic Art," by the Rev. G. H. West, D.D.; "Porches and Approaches," by Mr. F. T. Baggallay; "French Modern Architecture," by Mr. A. Vye-Parminter; "The London Club House of Last Century," by Mr. A. W. Soames, M.P.; "Valuations, Compensations and Light and Air," by Mr. E. Greenop; "Fenestration," by Mr. Walter Cave. The meetings will be held at No. 18 Tufton Street, Westminster, S.W., at 7.30 p.m.

ILLUSTRATIONS.

CHURCH OF OUR LADY OF THE SACRED HEART, WELLINGBOROUGH.

The building shown by the illustration is one of the most important works of the late Samuel Joseph Nicholl, who died this year on March 21, as we reported at the time. Being a Roman Catholic his clients were mainly co-religionists. He was of an age to be inspired by Pugin's revolutionary "True Principles," and the church represented this week suggests how excellently he could work in the Mediæval spirit, but he could not be said to have believed that it alone was adapted to modern needs. If disposed to assert himself he might claim to be the pioneer of the Romanesque style for new churches. Long ago he built a church at Turnham Green, at a moderate outlay and with the cheapest materials, which was impressive. As well as we remember, the church of the Jesuits in Preston, which he was engaged to beautify, became an elaborate Romanesque building by the aid of terra-cotta. A church of his at Brighton was also an effort in the same direction. He brought out an edition of the directions for the building of churches which was written in the seventeenth century by St. Charles Borromeo, the ecclesiastical reformer, and he was of course faithful to the instructions in it. Perhaps this breadth of view as relates to style was partly due to his acting as assistant in the office of P. C. Hardwick. There restriction of style was unknown, for all were welcome. Mr. Nicholl had charge of the commissions which were in the Mediæval manner, but amidst such surroundings he could not fail to realise what was serviceable in the "pestilential Renaissance." He was not, however, to be led to adopt modern Italian in his churches. Nicholl was a master of all that related to ecclesiastica buildings, a true ecclesiologist, but, like the Mediæva builders, indisposed to pose as a celebrity. His works merit study, for many of them are examples of making the most of limited funds.

ST. OLAVE'S UNION, LADYWELL.

HOUSE AT SUNDRIDGE PARK, BROMLEY.

PROPOSED WEST END CHAMBERS AND OFFICES.

BUTCHER'S SHOP AND HOUSE ON MATFIELD GREEN KENT.

CARSTONE, HUNSTANTON.

STRATFORD-ON-AVON.

TRATFORD-ON-AVON, the Mecca of the literary Briton and the cultured American, was visited in a hole day excursion of the members of the Upper Norwood thenæum on Saturday, July 29, under the guidance of Mr. H. Lindsey Renton, the vice-chairman. By an early ain on the Great Central Railway they reached Stratford time for luncheon at the Golden Lion, after which the ttage universally regarded as the birthplace of the Bard f Avon was visited and its literary and historical treasures spected. The next step was to Shottery, where Anne athaway's cottage, as picturesque as it is interesting in lation to the poet's history, was duly seen and admired; n returning, the Grammar School, where doubtless the ture genius received his early training, and where tradition ssigns the exact spot where Shakespeare sat as scholar. he school was formerly the Guild of the Holy Cross, and e chapel of the Guild stands as it did in Shakespeare's me and for at least 300 years before. Then to New lace, the great dramatist's home in his later days, whence is body was taken to its last resting-place in Holy Trinity hurch—

> Among the familiar names to rest,
> And in the places of his youth.

was ruthlessly destroyed in 1757, and a modern structure as been erected upon its site. The Shakespeare Memorial heatre provided an excellent setting for the group of embers taken by Mr. Mendelssohn, and Harvard House, hich was sold for 945*l.* the other day, built in 1596 by the arents of Katharine Rogers, the mother of John Harvard, ho founded Harvard University, was regarded with terest. The beautiful collegiate church dedicated to the ly Trinity, with the grave of the poet and his commorative monument, were examined with keen interest. e latter consists of a half-length figure, the hands resting on a cushion; above are the arms of John Shakespeare, father. So ended one of the most memorable rambles Society has held, and so well was the time apportioned t dinner was taken in the return train. The vision of the autiful Midland town will long remain with the visitors, d they will remember that—

> Broad and smooth the Avon flows
> By Stratford's many piers;
> And Shakespeare lies by Avon's tide
> These thrice a hundred years.

Shakespeare's Birthplace.

Anne Hathaway's Cottage.

William Shakespeare was born at Stratford-on-Avon on George's Day, April 23, 1564. He was the eldest son of n Shakespeare and his wife, Mary Arden. His family re gentle on both sides. His paternal ancestor is supsed to have fought at Bosworth Field on the side of Richnd, for he received from Henry VII., in reward for aliant and faithful" services, tenements and lands in arwickshire, on which his descendants dwelt till the birth him who was destined to immortalise their name. akespeare's mother was the daughter and heiress of bert Arden, of Wilmcote, in Warwickshire, a gentleman ancient and honourable family, deriving its name probly from the forest land on which its possessions stood. m about the time Shakespeare completed his eleventh r the prosperity of his family waned. His father was a olstapler and glover and an alderman, given much to charity, and greatly beloved and respected by his fellow-townsmen, but in 1578 John Shakespeare was involved in debt, and in the autumn of that year he effected a mortgage on his wife's property at Wilmcote. Various reasons have been assigned for his financial embarrassments, but it was chiefly considered due to the depression in trade. It has been stated he suffered for his religious belief. He was a recusant, and Elizabeth's hand was as heavy as that of her sister Mary in matters theological; but be that as it may, it did not prevent William marrying, when a youth of eighteen, Anne Hathaway, and he was the father, and a devoted father, of three children before he reached his twenty-first year. But before following his fortunes let us for the moment hark back to his childhood.

At a very early age he was sent to the free Grammar School of Stratford, which we have seen to-day, and there, under Walter Roche, Thos. Hunt and Thos. Jenkins, he pursued his studies until his fifteenth year, when his father's embarrassments cut short his scholastic career; and it is generally understood that during the three or four years which elapsed before his marriage he endeavoured to help his father in his much curtailed business. It is stated, as showing he was well grounded in the humanities, that for a time he acted as a tutor in a country school. Another writer states that from his writings he must have been a year or two in a lawyer's office, but to a great extent these opinions are based on uncertain data. Although one could well understand an active and intelligent mind such as his would dislike the narrow environment of a retail shop such as his father's business had become and seek a wider field for his abilities, it is thought about the time of his marriage he got mixed up with undesirable acquaintances, basing that opinion upon the deer stealing incident in Charlcote Park, but after all that freak was more likely the result of his lively spirit and desire for adventure. However, Sir Thomas Lucy prosecuted him sharply for the offence, and in retaliation he wrote a satirical ballad upon him, which so incensed the baronet that Shakespeare thought it prudent to leave Stratford and join his friends and associates the players in London.

It might be here stated that Shakespeare's mother's family were devoted Catholics, and one of his uncles, Edward Arden, was hanged at Tyburn for being connected with a conspiracy against the queen's life. Lucy was a most fanatic Protestant, and had his eye as a magistrate upon the Ardens and their connections; hence it can be readily understood that after the episode of Charlcote Park, plus the "doggrel ballad," Shakespeare was wise to seek another residence at least for a period. His inimitable sketch of the formal country justice in the second part of "Henry IV." and in the "Merry Wives of Windsor"—Robert Shallow, Esq.—was easily identified with Sir Thos. Lucy by the pointed allusion to the coat of arms as by other allusions of a more indirect but hardly less decisive kind. Shakespeare's love of the woodland scenery for which his native county was so celebrated is to be seen in many of his plays. "Love's Labour's Lost," "Two Gentlemen of Verona," "Midsummer Night's Dream," "Titus Andronicus," have scenes in woodland glades and ruthless, vast and gloomy woods.

After leaving Stratford we next find him associated with his three fellow townsmen, Burbage, Heminge and Greene, who were members of the Earl of Leicester's play-acting company. As an actor Aubrey states Shakespeare did exceedingly well. According to an actor-manager, than whom there is no one now living better versed in the acting of Shakespeare's plays, the poet must have thoroughly understood the business of the stage, since there is not an impossible or awkward entrance or exit in any of the plays he wrote. An old stage tradition states he was the original Mercutio in his play of "Romeo and Juliet." Of plays it may be here remarked briefly that a few only were published separately in quarto form during his lifetime; his fellow actors Heminge and Condell collected thirty-six and published them in folio in 1623; this collection was republished in 1632.

As a poet, Shakespeare first came before the public in 1593 with a metrical rendering of the classic story of "Venus and Adonis." Although the author's name does not appear upon the title-page, his name in full is appended to the letter of dedication to the Earl of Southampton. The most beautiful, strangest and sweetest of all his poems, "The Sonnets," were not published till 1609, when they appeared surreptitiously. The greatest part of this collection appears to have been written in 1594, not for the public, but for private friends. "Lucrece" was written in 1594, and also dedicated to his great friend and patron, Southampton.

All this time Shakespeare had one thought in his mind—the resuscitation of his family fortunes. His first care was to re-establish the honourable position of his father. He helped his father in an action in the Court of Chancery to recover some of his mother's property which had been mortgaged. He returned to Stratford in 1596 after an absence of some eleven years, and worked a revolution in the affairs of his family. The prosecutions of his father in the local courts ceased, and he himself is henceforth styled "of Stratford-on Avon, gentleman." His father in that year made application for a grant of Arms. The Arms, though at first refused, were granted in 1599, motto, *Non sans droict.*

No doubt a feeling of astonishment has possessed many that amid the temptations of a life associated with a class who, generally speaking, think little of the morrow, Shakespeare should have been enabled not only to amass a comfortable fortune, but to maintain the high level of rectitude which distinguished him in all his dealings. The answer to that appears to me to be the memory of the home troubles of his youth, his acute intelligence telling him that thoughtless expenditure inevitably brought retribution in its train. He must obviously have taken to heart the lesson of his father's imprudence. His father was no doubt a warm-hearted, lovable man, who would carry the sympathy and affection of his family with him through all his troubles; but his eldest son, who early understood the secret springs as well as the open issues of life, must have realised vividly the rock on which their domestic prosperity had been wrecked; and before he left home he had evidently formed an invincible resolution to avoid it at all hazards. This helps to explain what has often excited surprise in relation to his future career—his business industry, financial skill and steady progress to what may be called worldl success.

The Guild Chapel.

Almshouses and Guild Chapel.

Few things are more remarkable in Shakespeare's pe sonal history than the resolute spirit of independence h seems to have displayed from the moment he left h straightened household to seek his fortune in the world, the time when he returned a man of wealth and position the town. While many of his fellow dramatists wer spendthrifts, in constant difficulties, leading disorderly live and sinking into unhonoured graves, he must have hu banded his early resources with a rare amount of qui firmness and self-control. Indeed, as Baynes states in h fine essay on Shakespeare's qualities, "Now, considerin the poet's associates, occupation and surroundings, it significant testimony that though fond of social life and i enjoyments, without a touch of harshness and severity his temper, he yet held himself thoroughly in hand, th amid the ocean of new experiences and desires on whic he was suddenly launched, he never abandoned the heln never lost command over his course, never sacrificed th larger interests of the future to the clamorous or excessiv demands of the hour."

Even in those days actors earned large salaries an made money. One disappointed academic scholar wrote:-

> England affords these glorious vagabonds,
> That carried erst their fardles on their backs,
> Coursers to ride on through the gaying streets,
> Sweeping it in their glaring satin suits,
> And pages to attend their masterships;
> With mouthing words that better wits have framed;
> They purchase lands, and now esquires are made.

In 1597 the poet took a more effective step to establis his position by purchasing New Place, one of the large houses in the town. He also bought the tithe of the chur and land in the district. There is no doubt that he pass the concluding years of his life (1611-6) mainly Stratford. It is probable that he disposed of his shares the Globe and Blackfriars theatres in 1611, since he own none at the date of his death. But until 1614 he pa frequent visits to London, where friends in sympathy wi his work were to be found. His plays continued to for the staple of Court performances.

He died on April 23, 1616, probably of a fever, and w buried on April 25 in the chancel of the collegiate churc It is a curious coincidence he died on the anniversary of birthday.

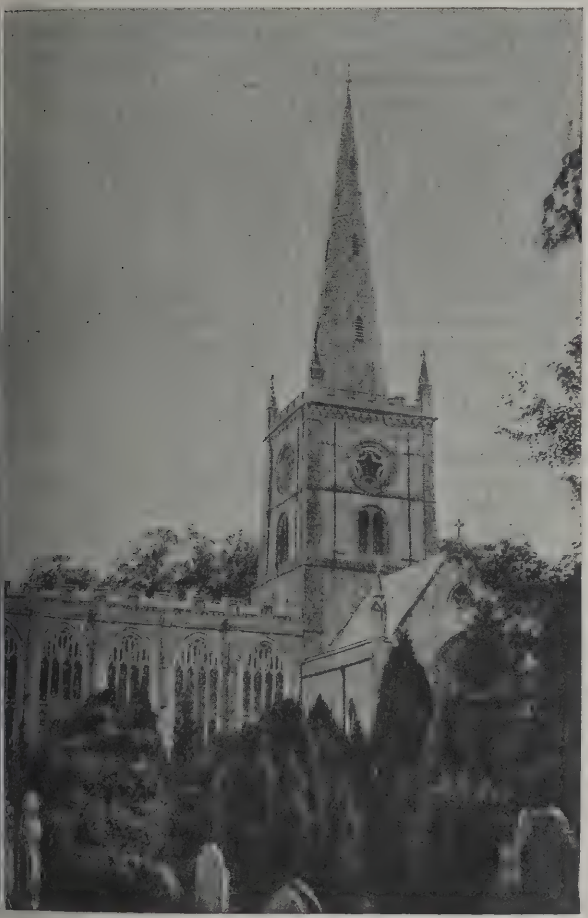
We have to-day visited most of the historical plac connected with his life and work: his birthplace, a shri to countless thousands of the English-speaking race; An Hathaway's cottage, almost equally enshrined in the hea of the lovers of the Swan of Avon; New Place, the sce of his retirement in middle age; and although there are b a few remains left of his house, the ground is hallowed his memory, and one can well clothe the beautiful garde and sward with his figure and those of his faithful frien as in the evening of his life he in witty conversation chatt with those who sat, figuratively speaking, at his feet (amo whom were "Rare Ben Jonson") and charmed them wi his kindly and affectionate welcome.

After a pleasant walk across the fields we visited An athaway's cottage at Shottery. It is stated that this ttage was in the possession of the Hathaways from the ne of Henry VIII. The last male of the family was John athaway, whose death took place in 1746. In 1892 the istees of Shakespeare's birthplace purchased the cottage om Alderman Thompson for 3,000*l*.

The memorial, so charmingly situated, was originally ggested by the elder Charles Mathews in 1821. The oject was revived at the tercentenary celebration in 1864, t it remained for the late Mr. Charles Flower to carry it o effect by the generous gift of a site and a sum of money start a memorial fund. Mr. Unsworth was the architect, d the theatre was modelled somewhat upon the plan of e original Globe theatre. It was opened on April 23, 79, with a performance of "Much Ado About Nothing," which the late Helen Faucit and the late Barry Sullivan ok part.

I need not here dilate upon the attractiveness of this emorial both for its treasures and its surroundings; suffice to say it is indeed a fitting memorial to our greatest poet.

The Grammar School is, of course, of very great interest, d the desk we saw at the birthplace, said to have been ed by Shakespeare, stood at the northern end near a ndow. Whether as a scholar or as tutor is uncertain, but ere are some who say he acted for a short time as a aster in his old school.



Holy Trinity, Stratford-on-Avon.

The Guild Chapel adjoining is exceedingly interesting. far back as 1296 a chapel was founded by Robert de atford, of the Augustinian fraternity. It was a small lding, situated upon the present site, but no portion nains, the nave, &c., having been taken down in the time Henry VII. to make room for a more stately structure ve, tower and porch were built by Sir Hugh Clopton. The pendicular windows of the nave gave the old chapel a narkably elegant appearance, and the tower, although lofty, accords well with the other portions of the build-

The large bell in the belfry is used as a town bell. It is ed when a burgess dies or when a fire occurs, but in the er its boom mingles with the tintinnabulation of a smaller in a most alarming cadence. From September 12 to ch 12 the curfew still tolls the knell of parting day at nt, and the apprentices' bell arouses the slumberers at o'clock in the morning. The elaborate decorations on the wall are now hidden by several coats of whitewash, but during the mastership of the Rev. R. S. de Courcy Laffan, late headmaster of Cheltenham College, a portion of the walls was uncovered and some very interesting frescoes were discovered.

We now will turn our attention to the venerable fane which holds the dust of our sweet singer. It stands on the site of an earlier building, of which nearly all traces have disappeared. As the Rev. George Arbuthnot says:—"Built in the days when the rivers were the great highways, it was naturally connected with the abbeys of Evesham and Pershore on the Avon, and Tewkesbury, where that river joins the Severn. It is a collegiate church, so called because it was served by a college of priests, among the deans of which was Thos. Balsall, who rebuilt the chancel and died in 1491, and Ralph Collingwood, who was appointed Dean of Lichfield in 1512."

The surroundings of the churchyard are delightful, a walk along the terrace which overlooks the river being charming. Longfellow is said to have written his poem to Shakespeare here. The lines commence thus:—

Flow on sweet river like his verse,
Who lies beneath this sculptured hearse,
Nor wait beside the churchyard wall
For him who cannot hear thy call.
Thy playmate once, I see him now,
A boy with sunshine on his brow;
And hear in Stratford's quiet street,
The patter of his little feet.

It is said that during the Civil Wars persons condemned to be shot were frequently executed in the churchyard, and on the west wall outside shot marks can be seen.

A curious feature in this church is its "skew;" the chancel inclines so much to the north that a straight line drawn up the nave would hardly touch the south end of the altar. At the east end of the north aisle is the old lady-chapel, which is now commonly called the Clopton Chapel, because it is filled with the tombs of the Cloptons.

A very curious tomb is to be seen on the west wall, just beneath the arch which has been formed for the organ. It is that of Richard Hill, who died in 1593, which runs as follows:—

Heare borne, heare lived, heare died, and buried heare,
Lieth Richarde Hil, thrise Bailif of this Borrow;
Too Matrones of good fame, he married in Gode's feare,
And now releast in joi, he reasts from worldlie sorrow.

Heare lieth intombed the corps of Richarde Hill,
A woollen draper beeing in his time,
Whose virtues live, whose fame dooth flourish still,
Though hee desolved be to dust and slime.
A mirror he, and paterne mai be made
For such as shall suckcead him in that trade;
He did not use to sweare to glose eather faigne
His brother to defraude in bargaininge;
Hee woold not strive to get excessive gaine
In ani cloath or other kinde of thinge:
His servant, I, this trueth can testifie,
A witness that beheld it with mi eie.

The chancel surely is like unto Becket's shrine at Canterbury during the Middle Ages, for before the altar lies Shakespeare in his last sleep, and countless thousands of the great English-speaking race visit the grave of him who is the greatest poet of all ages and the pride of the Anglo-Saxon confederation; for here great numbers of our cousins across the Atlantic visit as a bounden duty the shrine of him who has made the whole world akin.

For, indeed, as Florence is to Italy, Weimar to Germany, so is Stratford to that race who multiply exceedingly and on whose possessions the sun never sets.

Let us therefore reverently approach the sacred spot and think of him whose genius has charmed the cultured of all countries, and who has brought honour to the land who gave him birth.

Good frend for Iesus sake forbeare
To digg the dvst encloased heare;
Blest be ye man yt spares thes stones,
And cvrst be he yt moves my bones.

Indeed, whether these lines were written by Shakespeare or some friend, as has been suggested, they were not written without good reason; for, apart from the desecration of tombs that was so prevalent in the Middle Ages, it was not unusual after some time to shift the bones of the late occupants to what was known as the charnel-house, to make room for others. Shakespeare's knowledge of this is given in "Hamlet" when he soliloquises over the skull of "poor Yorick" turned up by the sexton in making Ophelia's grave. On the immediate left of the poet's grave is that of his wife, who survived him some seven years. Close by are those of his son-in-law, John Hall, his elder and favourite daughter, Susannah, wife of John Hall.

When we turn to the south transept we come to what is sometimes called the American chapel. The window known as the American window was unveiled by Mr. Bayard, the American ambassador, in 1896. It contains the likenesses of King Charles, Archbishop Laud, Bishop Egwin of Worcester, St. Wolfstan, John de Stratford, Archbishop of Canterbury in the reign of Edward III.; Amerigo Vespucci, Christopher Columbus, William Penn, St. Eric, Bishop of Greenland, an early trans-Atlantic bishop; and Dr. Seabury, first Bishop of Connecticut.

The illustrations are from photographs by Mr. H. S. Mendelssohn.

SANITARY BUILDING CONSTRUCTION.*

SANITARY building construction is a wide term, and it is difficult to define its limits. For the purpose of this article (which must be brief) I propose to take the narrowest interpretation.

Insanitary building construction may be generally described as that which is calculated to produce conditions in our buildings tending to lower the vitality or otherwise prejudicially affect the health of the occupants. It is the aim of sanitary construction to prevent these conditions arising, and especially two of them, viz. dampness and stagnation of air. We must keep our buildings dry, and the air in them pure and sweet under all conditions. There is, however, a third evil condition, which it is also of great importance to guard against, *i.e.* the use of materials which are themselves noxious or likely to hold and nurture the germs of disease. Many materials are not actually noxious, only potentially so, and their harmful activity is caused or fostered by the presence of damp and stagnant air. These three conditions act and react one upon the other, and if in building we exclude them all we have practical sanitary construction.

Sanitary building construction has advanced greatly within the last thirty years, but constant vigilance is still required to insure the exclusion from among the many new materials now available of those which are harmful in the direction I refer to above. Moreover, I venture to think that the standard of excellence (from a sanitary point of view) of many of the materials and methods of construction now accepted as satisfactory requires to be raised. In all building by-laws that standard is necessarily a minimum one, and in the majority of buildings it is seldom exceeded, if indeed it is attained. There is, I fear, little hope of this standard being raised until the community recognises the very great importance of thoroughness in sanitary precautions; and thoroughness may be inculcated gradually by the constant exposure of the futility of half measures.

There was a maxim much quoted by a past generation of builders, that a good building should be "sound tie, top and bottom," that is to say, that it should have a sound foundation, a watertight roof, and its walls properly strengthened by the tie of the floor and otherwise. It is also a good commencement for sanitation; for instability of the framework of a building tends in time to set at naught the careful construction of sanitary fittings, and to admit damp into the buildings.

I do not propose to discuss the question of the site and the nature of the ground upon which a building should be erected. In this country, and especially in towns, choice of site is restricted. Other considerations than that of suitability from constructional and sanitary points of view are paramount.

We must be prepared to build sanitarily upon clay, gravel, sand, or chalk; anywhere between the top of the hill and the bottom of the adjoining valley; on dry ground; on wet ground; and at times on *bad* or polluted ground. In each case we must adapt our method of construction to suit the particular circumstances; but in all cases to secure a sound foundation and the exclusion of ground air from the building. Under the usual by-laws a layer of concrete 6 inches thick (in some cases 4 inches) is required for the latter purpose, but in many cases, I venture to think, it is an inadequate protection. Water will run or rise from damp ground through cement concrete as through a sieve. It is well, therefore, to add a rendering of cement on the
top of the concrete; better still asphalte, which alone c
be relied upon to exclude water.

The second safeguard or, so to speak, "line of defenc
against ground air is the open space beneath the grou
floor, provided it is well ventilated. The sanitary value
an air-flushed space beneath the ground storey is scarce
sufficiently recognised. In hospital buildings it is commo
place; why not in all buildings? It is not too much to s
that the free passage of air beneath the building is of mo
value than a bed of concrete over the site. Ventilation
this space is effected by air-bricks in the outer walls, p
perly distributed to insure that no part is left stagna
Generally too few are provided, and these are often clos
up in time by successive coats of paint or buried by t
raising of garden beds next the building.

Moisture will also travel up and through the walls to
surprising extent; hence the necessity of an effective dam
course. The commonest and cheapest form is that form
with slate set in cement. This, if the two courses are la
to "break joint," is effective enough, provided there is
the slightest settlement in the walls; otherwise a bre
occurs, forming a fissure which dampness can penetra
An excellent damp-course is also formed with glazed p
forated slabs, and these serve also as means of ventilati
under the floor. Sheet lead between two thicknesses
tarred felt should be effective, but care must be taken th
the joints are very carefully lapped, and that the brickwo
both above and below is even, so as to prevent perforati
by excrescences on the bricks. Almost the only really sat
factory damp-course is good asphalte, about half an in
thick, not more.

Assuming that the lowest floor is as little as 12 inch
above the level of the ground outside, a damp-course plac
over the whole thickness of the walls, &c., below the flo
sleepers and a few inches above the ground is qu
effective. But when, as is often the case, the lowest flo
is below the level of the ground, obviously the simple dam
course is ineffective by itself. It is possible, of course,
keep the wall dry by turning the damp-course up the w
on the face to a few inches above the ground, but great ca
is required to insure a proper junction at the angle of t
vertical and horizontal layers.

Another method is the construction of a "dry are
which is usually formed by carrying a thin (half-brick) w
from the footings up to the ground level. In order to wit
stand the pressure of the earth outside, this wall must
provided with means of support from the main wall; eith
small bent iron ties or occasional brick ends bedded agai
the wall, and always with a small piece of slate plac
between the brick and the wall. Obviously, without t
slate the porous brick end would convey dampness to t
wall. It is a clumsy method, but quite effective if careful
done.

Various forms of iron ties are used, and all are design
to prevent water travelling above the surface towards t
main wall. A very effective vitrified brick is also made f
the purpose, and is built into both walls. It will bear mo
pressure than the iron ties, and is, of course, not lia
to corrode away. The vitrification of the materials rende
it impermeable by water. Neither the vertical damp-cour
nor dry area can be considered good sanitary constructi
A wide open area is the only satisfactory solution, and t
should be carried down at least a foot below the floor lev
Thus the whole surface of the walls of the rooms
exposed to the air. The part played by the porosity
walls in the ventilation of buildings is apt to be overlook
The best sanitary construction is to avoid basement
semi-basements altogether for living rooms.

So far we have dealt with dampness arising from t
ground. Next in order is that arising from the rain beati
on the surface of the walls. Damp walls are obvious
insanitary, and here we are met by a difficulty. If a w
is constructed so non-porous as to exclude water, it m
also exclude the passage of air. What is required is
construction which, as far as possible, shall attain to t
ideal supposed to be the special property of certain muc
advertised cloth materials for coats, which claim to
"rain" but not "air" proof. As a rule, and except
exposed positions, good brickwork is very satisfactory
this respect, and the ordinary London stock brickwo
especially so. The vertical surface of the bricks has a ve
thin skin, which acts as a slight check upon the entry
water, and the rain therefore runs more readily down t
surface to the ground. The weak spots are the mortar joi
and any horizontal surfaces. At the joints it is impossi
to avoid small ledges being left either on the brick or mort

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* A paper by Mr. Alfred Saxon Snell, F.R.I.B.A., read at the sessional meeting of the Royal Sanitary Institute at Cambridge, and published in the *Journal*.

d these at once collect the water and allow it time to netrate the brickwork. The "cut and struck" weather at counteracts this to some extent. In making this joint th the point of the trowel, the pressure used consolidates surface of the mortar, thereby closing up the larger res. The outward slope throws the wet forward from face of the wall, and the sharp edge assists this action. nother safeguard against damp in the wall is solidity of nstruction. A solidly built wall may hold water in the numerable pores and small interstices of the bricks; and s may go right through the wall, but generally it travels slowly as to be absorbed by evaporation before it has ne far. Voids in walls, formed by lack of sufficient mortar the joints, collect and convey water readily to the internal e.

In very exposed positions, and especially with a west d south-west aspect, brick walls 14 inches thick, or even ore, are not rain-proof, and it then becomes necessary to otect them by special means. One of the most ordinary ethods is that of building what are called "hollow walls." e outer wall forms in effect a "dry area." Inasmuch the main wall cannot be reduced in thickness the method not cheap, but it is certainly effective. Another and more turesque method is to tile the external face of the wall. e tiles would be secured by nails and bedded in cement or ster, or merely hung on fillets nailed to the wall. I have o found that slates bedded in mortar and with a 3-inch are absolutely effective. A rendering of cement or en painting with tar is of use.

With respect to materials of construction, obviously ything likely to nurture, or, under given circumstances, nerate noxious gases or growths, must be considered as sanitary for use. I have heard that ordinary road drift akes very strong mortar, and this is no doubt due to its ain constituent, washed, *i.e.* sharp sand. But in general also contains particles of manure and decayed vegetable atter, which cannot but be injurious and a source of llution to the air passing through a wall. Ordinary pit other unwashed sand has been objected to on the ground at it contains various particles of organic matter, but with rly clean sand the danger is a negligeable quantity. rtar formed with finely ground coke breeze is, of course, tirely free from objection and it is very strong.

We have next to consider the roof, and we are taught ach about the sanitary value or otherwise of various roof verings, but their qualities as effective shelters are on the ole most important. In order that they may be able to ccessfully resist wind and rain, care must be taken that eir construction is good and substantial, and the materials ed sound and, above all, lasting. The most common roof verings used in this country are slates and pressed tiles. dinary Welsh slates make a most satisfactory roof. eir thinness and evenness require a comparatively light nstruction for support. They are practically impervious rain and can be laid at a comparatively low pitch. Laid rows, lapping one over the other, they present throughout surface of the roof a uniform thickness of three slates; d by "breaking joint" each course, the joints of the two ver thicknesses are covered, and thus no water can pene- te them. Plain tiles are laid in a similar manner; they heavier, and require therefore stronger construction of roof for their support. They cannot, however, be laid closely, and therefore a driving rain is more easily forced between the layers. To counteract this they must be d at a steeper pitch than is necessary with slates. Being greater thickness and worse conductors of heat than tes, they are undoubtedly better for keeping out heat in nmer and cold in winter; and where rooms are con- ucted within, or partly within, a roof, this is a matter of portance. Boarding and felting beneath the slates or s give further protection. The felting used should be nodorous" tarred felt. The ordinary plain, thick felt, nough doubtless much warmer, is liable to harbour mal life; and some felt is anything but inodorous. With pect to hips and ridges it is only necessary to bear in nd that whether they are formed with slate, tile or lead, y should be so fixed and set as to leave no openings for penetration of water to the roof.

The same may be said of lead gutters and valleys; and s necessary to see that they are laid to a regular fall to outlet, that the upturned sides against the parapet walls properly protected with flashings, that they are carried ll under the slating, and finally that each length of lead laid without transverse joints, which would very soon ak open. The only practical way of avoiding these joints to form drips between each length, and care should be taken that the end of the upper length when turned down laps well over (but not too much) the end of the lower turned up. Defective and inadequate eaves, gutters and down pipes ("spouts") are very likely to divert water into a building, and are constant sources of soakage to the walls. Very often the gutter is so fixed that a heavy wash of water down the roof will shoot over the edge. This is not likely to happen if the gutter is large and fixed well up under the slating. It is usual to fix the gutter with a slight fall towards the outlets; but it is a good practice for keeping the joints sound to have them quite level, though obviously it is not good from a sanitary point of view. Down-pipes should always be fixed well clear of the walls on "holder-bats" or bracket supports. Possible leakage does not involve damage to the walls, and the pipes can be painted regularly at the back. The pipe should be fitted at the bottom with a shoe, so as to direct the falling water away from the wall, or it will be sufficient if it discharges well within a curb round the gulley at the ground level.

So far we have considered the dampness which may come from without the building. There is that also which arises from within and is the result of condensation. In certain conditions of the atmosphere the air is heavily charged with water (and warmed air holds a much larger quantity in suspension than cold air), which is condensed or deposited in minute particles upon contact with cold surfaces. If therefore by the nature of its construction or materials the wall is cold, it acts as a condenser upon the air, and the sight of walls streaming with water is familiar to most people. We have then to avoid such materials or construction, or if for good reasons we must employ the materials, care should be taken to counteract their effect by construction. Stone and concrete, and generally any material which is a bad conductor of heat, may be placed in the category, and it is generally necessary with these materials to line the inner surface of the walls with bricks. Lack of porosity of the surface of the walls or plaster (such as may be caused by painted or varnished surfaces) may defeat the quality of brickwork in this respect, because a bar is set up to the passage of air through the wall from the outside; this air, colder than that on the inside, would otherwise take up the moisture as quickly as it was deposited. The porosity of walls has also its place in the ventilation of our buildings. It is too large a subject to enter upon in this paper, and I must content myself with noting that absolutely impervious walls have been shown to deprive buildings of a large and necessary amount of ventilation.

Coming now to internal construction we are mainly concerned with the walls and floors. Apart from decorative considerations, a plain brick surface to the walls well limewashed is quite sanitary—more so than many more costly finishings. The great drawback is the number of small surfaces and ledges left, which form lodgments for the collection of dust, composed of small particles of organic or inorganic matter; and dust, it must always be borne in mind, is a carrier of disease germs. It is composed of very small particles of inorganic and organic matter, and under favourable conditions (especially with heat and moisture) the organic matter becomes putrescent. A smooth surface without ledges is best obtained by various kinds of plaster. Whatever the setting material, whether lime, cement or gypsum, &c., the aggregate is generally sand, and if it is clean and sharp no sufficient objection can be taken to it; but in cheap building inferior sand is, with a large admixture of clay and even vegetable matter, too often used, and it cannot be otherwise than insanitary.

Plaster may be painted or distempered; the latter for choice, because it offers less resistance to the passage of air through the walls, and it is cheaper to renew. Paints, especially enamels which are largely composed of varnish, allow of a smoother surface, and can be washed when necessary without detriment to the surface. For the walls of hospitals distemper is generally considered bad because it is mixed with size, and size is animal matter which putrefies.

Papering (and that with rough or "flock" surfaces more particularly) on a wall cannot be regarded as satisfactory from a sanitary standpoint. It is perhaps a counsel of perfection to suggest that it should never be used in ordinary rooms. For sick rooms and hospital wards it is absolutely unsuitable.

Moulded cornices and skirting boards also have many surfaces and internal angles, upon and in which dust collects, and is removed with difficulty. It may be well to note here that, if skirting boards are used, care should be taken that the plasterwork is carried down behind them to the floor level. Builders like to effect a little saving by omitting this precaution. In hospital buildings moulded skirtings are now replaced by a hollow curve between the walls and floor, which is easily cleansed. It is also usual to treat all the internal angles of walls, &c., in this way. It will be noticed, by the way, that internal square angles always appear a little cleaner than the adjoining surfaces, and this is because the air does not readily circulate therein, and it is therefore likely to be more or less stagnant.

Floor surfaces should also be as clean and smooth as possible, and the most sanitary kinds are those without joints, which are the most likely places for harbouring dust and dirt in the building. Ordinary wood-framed floors, *i.e.* those formed with wood joists carried from wall to wall, are usually covered with boarding of soft wood about an inch thick and from 3 to 7 inches wide. Such boards laid together and wedged up close present a very satisfactory surface for a few weeks or months, but sooner or later shrinkage opens the joints; these quickly let in the dust, and whenever the floor is washed dirty water and soap find their way in and fill them up. A tongued soft-wood floor is but little better. Hard-wood tongued floors shrink less, or under favourable conditions not at all. These conditions (the use of thoroughly seasoned wood and absolute dryness of the building), however, are seldom realised. In earlier times it was customary to build more slowly, and the carcase of a house was often left to dry for several months before the joinery was put in and fixed. Nowadays a house is finished and occupied many months before the walls are really dry. In all public buildings and especially in hospitals, solid floors of various constructions are, or should be, used. The commonest and least costly is that formed with light concrete filled in between steel joists, the concrete being composed of coke breeze and hard broken brick mixed with Portland cement in proportion of six to one.

Lighter floors are formed with terra-cotta or other burnt clay beams or tubes, supported at each end between the joists, and filled in on top with a thin layer of concrete. Such floors can be covered with wood in the form of blocks or with tongued boards bedded on, or nailed to, the concrete, and thickly coated on the underside with a mastic, of which tar is a considerable ingredient. They can then be stopped in with bee's-wax and turpentine, and polished, and a thoroughly sanitary floor is thereby obtained.

During the last few years thick linoleum has been used with success in place of boards or blocks, and it can be polished equally well. It can be made in 6-feet widths and long lengths, and the joints are thus reduced to a minimum. It is, however, necessary to prepare the concrete floor with a thin layer of cement to an even, though not necessarily a smooth, face, and the fixing mastic is merely paste and glue.

The floors of bath-rooms and w.c.'s are best formed with hard tiles or terrazzo. The latter is more absorbent than the former, but it can be, if necessary, polished in the same manner as a wood floor. Whilst referring to these rooms it may be noted that the walls should always be lined for a good height, say 5 or 6 feet, with glazed tiles.

Up till a few years ago internal partitions, when not of solid brick, were usually formed with wood framing, which was lathed on both sides to receive plaster. Latterly a number of light concrete and plaster slabs have been placed upon the market with which strong, thin and solid partitions can be formed, and it is likely that the old-fashioned wood-framed partition will be superseded by this far more sanitary construction.

These few notes do not by any means exhaust the subject, but perhaps enough has been cited to draw attention to the main points to be borne in mind in seeking to secure good and sanitary building construction.

THE LATE C. A. CUMMINGS.

THE very unusual degree of friendly feeling and mutual regard that exists amongst and between the architects of Boston is due very largely, says the *American Architect*, to the example of those two exponents of the golden rule, the first two presidents of the Boston Society of Architects, the late Edward Clarke Cabot and Charles Amos Cummings, who, we regret to announce, died last week in the seventy-second year of his age. It is due to the precept and example of these two men, who, like the late Edward H. Kendall, of New York, impressed everyone brought in contact with them as being always and under all circumstances the perfect gentleman, that the Boston Society of Architects not only the largest, but the most harmonious, mo influential and most considerate of the constituent associations that are comprised within the American Institute Architects. Those who were interested in the salvation the "Bullfinch front" of the Massachusetts State House few years ago rejoiced that the conduct of the case reste so largely in the hands of Mr. Cummings, who knew to nicety when to be simply calmly logical and when advance his plea with fiery eloquence. In like way h conduct of the long but unsuccessful struggle to bring abou the remodelling of Copley Square, Boston, exhibited hi patient tact, while his firmness was shown by his action a one of the art commissioners in bringing about the reje tion of Macmonnies's "Bacchante," because of its unsui ability as a decorative adjunct of the Boston Public Library

Mr. Cummings was born in Boston in 1833, and, w believe, secured his technical training at the Troy Polytechnic Institute, followed later by travel and study i Europe. His early professional experience was acquire in the office of Mr. Gridley J. F. Bryant, who at that tim had the largest practice in Boston; but very shortly afte ward he entered on private practice, forming a partnershi with Mr. Willard T. Sears, which remained unbroken unti some dozen years ago, Mr. Cummings decided to retire an devote his time to literary work. During this period he no only contributed, as before, to magazines and periodical but wrote certain important articles in Mr. Longfellow "Cyclopædia of Architecture in Italy, Greece and th Levant" and in Mr. Sturgis's "Dictionary of Architectur and Building," in both cases going over, in parts, th ground he was at the same time covering in his ow "History of Architecture in Italy," a work which reveal the accuracy of the scholar, the polish of the writer and th delicate perceptiveness of the artist. During this sam time he had to undergo the chagrin of seeing a large pa of his life-work as an architect abolished, not because it wa not good, for it was better than the work of most of hi contemporaries, not because there was a demand for bette and larger buildings, but simply because he could no foresee the cheapening of plate-glass, and so had designe his commercial buildings in the Florentine and Venetia Gothic he understood so well. Here and there about th city there are still a few of these beautiful buildings unchanged as to their upper portions, but with the marble work of the lower storeys now replaced with thin sheet of plate-glass. One might almost say that of the man examples of the work of this unusually capable and artisti designer all that now remains unchanged in Boston are hi own house on Clarendon Street and the New Old Sout Church, a pistol-shot away.

EXPLORATION IN EGYPT.

HIERAKOMPOLIS was the place selected for invest gation by the members of the recent expedition the Liverpool Institute of Archæology connected with th University of Liverpool. Commencing under the Grea Fort, they found, says the *Liverpool Courier*, that previou excavators had not got down low enough, but that the whol had been built upon a pre-dynastic cemetery of about A.D. 6 on to the first dynasty. They cleared down within th area of the fort to that level, and found 180 graves, all i very good condition and of the usual type. The excavato obtained some very good photographs of them, taking picture of every grave, with details of small objects i position, such as beads, necklaces, bracelets, &c. Fro evidence obtained the expedition believed that the fo itself was of the very earliest dynasty, certainly before th fourth. The points in detail have, however, not yet been worked out, and the assumption is based upo burials related by position to the wars and the character surrounding tombs. Inside the early town enclosures the found very interesting remains of the third dynasty an earlier, also the foundations of several houses. Some the archaic objects were considered to be very good. Th work of the excavators was, however, greatly hampered b the extreme dryness of the ground, which made excavatio extremely arduous and dangerous to the objects them selves. Under the circumstances the members of th expedition very reluctantly decided to postpone furthe investigation at this particular site until a more favourabl season. They then proceeded southward as far Hiassayeh, which is south from Edfu. Here a great deal plundering had taken place during the summer, and o o spots proved almost fruitless of result for the tigators. They were, however, fortunate in dis- ing what they believed to be a new class of prehistoric ts at this point. Several interesting pre-Ptolemaic s with wooden furniture, somewhat nicely inscribed ainted, and a few hieroglyphic papyri were discovered assayeh.

arly in March, after having obtained the concession for n by the courtesy of Prof. Sayce, the members of the lition commenced definite excavations there. As is the case, rumours that the place had been plundered n some measure saved it for the more definite work of xpedition. Considerable evidence of Hyksos times ound, and the excavators made an interesting discovery time of Rameses VI., in the form of two remark- tomb structures of eight or ten chambers upon the d floor, with a stairway leading up to the first floor, e there was a similar series. The arches and vaults pointed, and in one chamber there was a stone apis and the obvious remains of offerings at that shrine. site in general illustrated in interesting fashion the ncial art of Egypt at that period, and small objects not at all uncommon, together with funeral stelæ. As ite is not yet nearly excavated, the members of the dition hope to resume work there next season.

he director of the expedition made a short excursion gada, and found there a vast eleventh-dynasty necro- , modelled upon the archaic plan of the third dynasty. s not a case of ruse here, but, in the opinion of this rator, of survival. It was, unfortunately, very much oyed, but a number of historical inscriptions and some were obtained.

he committee of the Institute of Archæology have ged to hold an exhibition this year in their premises dford Street. In previous years it has been held in ington House.

A SCULPTORS' BOYCOTT.

is rumoured, says the *Liverpool Courier*, that this year's exhibition (at the Walker Art Gallery) is to lose the ort of some of the prominent English sculptors. This result of an action by the recently organised Society itish Sculptors, who, it is said, have decided to practi- boycott all municipal and other exhibitions not com- g with certain conditions and stipulations laid down by ewest form of trades union. The question arises, Is ite fair to spring this decision upon the arts com- e at a time when the yearly exhibition is in course rangement? Previous notice would have been more derate on the part of the British sculptors, since, if the committee had the means and inclina- to comply with the demands of the organisation is now no time in which anything could be done. It be said that to place Liverpool on the boycotted is not altogether a fair return for favours received e sculptors in the past. At the autumn exhibitions rt of sculpture has always received as much considera- and attention as space and other conditions permitted, urther, quite apart from the exhibition, the city has a liberal patron of this form of art, as the many public es, monuments, panels and the like testify, and tors as a body are richer by many thousands of pounds gh commissions placed by Liverpool's citizens and cipality. It must not be inferred from the foregoing sculpture will be entirely absent from the forthcoming ition. There are many capable sculptors outside the s of the Society of British Sculptors, and while pro- the names of many well-known practitioners in this ch of art will be absent from the catalogue, there are continental and British sculptors who are no party e revolt, and who will be fully able to represent ture.

he Engineer of the Manchester Ship Canal has inti- d to the Warrington borough surveyor that the company d to proceed forthwith with the new works on the ey at Warrington authorised by the company's Act of This Act empowers the company, among other s, to put a dam across and divert the river—a scheme h is intended to keep the channel at a specified depth, neet an obligation which they have found it impossible by means of dredging.

TESSERÆ.

Allegory in Painting.

ALLEGORICAL painting, though little in use, and in the opinion of many altogether useless, may nevertheless be considered the epic of art. There is scarcely any other class of art that can properly be said to be original; for, whether the artist paints from the records of the historian or the descriptions of the poet, he does but embody the ideas which their writings convey. His own compositions are for the most part painted from the model or object before him; his taste lies in the arrangement of his figures, groups and accessories; but in allegory the thought, as well as the subject, must originate with himself, and the painter may give shape to an aphorism, or embody a sentiment, with no other aid than his own intellectual powers. As there are few good epics, so there are few allegories in painting that are perfect in their character, or that are not overstrained or difficult to be understood. "Time rescuing Truth from the Fangs of Envy," by N. Poussin, and "Apollo consecrating his Lyre to Truth," by B. Picart, are perfect in their kind. The first is of general application, consolatory to the mind labouring under a sense of injustice or wronged by suspicion. The other is admonitory, and recommends a practice too little observed in the effusions of poetry, which is often apt to embellish on the one hand, or exaggerate on the other, the virtues or vices of mankind. Allegory in painting, like epic in writing, is destroyed by the introduction of ordinary or mean accessories, as in the instance of Barry's picture in the Adelphi, "The Triumph of Neptune," where painted portraits in wigs, or dresses of the times, are given instead of sculptured medallions with the effigies of his naval heroes; these would have been in keeping with the subject, as well as with the tritons and nereids who are bearing them through the waves. In the picture of "The Elysian Fields and Tartarus" the anachronism is less offensive; for beside that it is skilfully managed, it is necessary to the understanding of the subject and the persons introduced.

St. Stephen, Walbrook.

There is in London a church of most wonderful construction which has been much celebrated, and deserves to be so, if the effecting what no other person could have conceived an idea of doing can give a just claim to celebrity, for there never was an equal number of architectural incongruities huddled together in so small a compass as here, so that it is the *ne plus ultra* in this line. In the church alluded to we find the Grecian column, though made of wood (not of marble), surmounted by its capital, architrave and cornice (standing in full pomp, like a Greenwich pensioner with his large cocked hat and bushy periwig), totally detached from all other objects on its own level, surmounted by arches in the Gothic manner but after the Grecian form and fashion. These arches, whose very existence ought to depend upon the solidity and weight of the materials of which they consist, are made of chips of wood instead of stone, so that in order to keep them from falling they must be bound by internal bars of a straight, not a curved form, that are concealed from view by the veneering with which the whole is covered. To proceed further in this kind of analysis would prove tiresome: the reader can have the pleasure of contemplating at leisure this matchless composition, warning him, however, not to let drop any hints of disapprobation, or he will run a risk of being hooted at as a maniac; for there is scarcely any church in England that has obtained higher eulogiums abroad, and from a certain description of persons at home, than this has; nor can it be denied that it is indeed and in truth a most wonderful structure.

Thomas Earlom, the Engraver.

Earlom was a man of moderate but independent fortune, and was a proof that excellence may be attained without those outbreakings of enthusiasm or that offensive eccentricity that has too often marked the career of genius. Though there is great technical skill displayed in the works of Earlom, it is not merely that which marks their character; for what they were, they are, of the highest class, and those are fortunate who possess examples of his talents in his prints of flowers after Van Os. These plates engraved in mezzotint may justly be termed, if not miracles, at any rate wonders of art, and were produced in a style of engraving which, till then, had never been thought calculated to represent the delicate texture of flowers. These compositions by Van Os, enriched with a great variety—insects, reptiles, figures in bas-relief on the vase which contained them, and drops of water upon the rich assemblage of flower and leaf—were all in the most elaborate style of execution, and all imitated by the engraver, colour excepted, with a skill and finish equal to the original paintings. Earlom was no less successful in his engravings in the manner of chalk; a fine example in this way may be seen in his figure of Alope after the painting by Romney. In this performance the character and spirit are kept up by the engraver with equal truth and skill as in the inanimate objects of still life after Van Os. This artist engraved a series of prints after the original drawings of Claude Lorraine in the possession of his Grace the Duke of Devonshire. These drawings were called the "Liber Veritatis," and were made for the purpose of identifying the real works of Claude from others that were said to be from his hand. These engravings are executed in imitation of the original drawings, and printed in a warm bistre colour to aid the resemblance. They were at first produced only in outline, simply with a view to show the character of the composition, and little expectation was formed by the publisher, Alderman Boydell, of their reception by the public. It turned out, however, a speculation of great profit, and so extensive was their sale that Earlom had to retouch and refresh the plates not less than five or six times. Prints from the Houghton collection, published also by Boydell, were principally from the hands of this artist.

Appreciation of Art.

The fine arts can be relished by none who have not previously attained knowledge, taste and refinement; and in proportion to these attainments is the pleasure the arts impart. As man becomes refined his wants and his enjoyments increase. The savage feels no want of Homer or Milton, of Shakespeare or Dante—their immortal poems present no images to his eye or ear; even if the words could be conveyed in his own language the ideas would be still unintelligible. The sculpture of Phidias or the painting of Raphael would give him no more pleasure than the tawdry figures we see borne about our streets for sale on the heads of their manufacturers, or the glaring coloured prints which we may remember to have been delighted with in childhood. The uninstructed labourer in civilised society is nearly as dead to those objects which fill us with delight as the savage. But the man who reads, who delights in books—the educated man—feels the want of the works of the poet, the painter, the sculptor, the engraver and the architect. As this want, this desire, is gratified, he almost acquires new senses, so greatly is the power of enjoyment increased. It is the "appetite that grows by what it feeds on." He knows no satiety. He desires something more and more elevated. He thirsts for the pure pleasures derived from the fountain of the arts, which pours its fertilising streams, its brilliant and healthful waters, to enrich the human mind and increase human happiness. The more he drinks, the more he relishes, and the clearer is his apprehension of the value of the purifying and healing spring from which his enjoyments flow.

Correspondence

Spread of Infectious Diseases by Public Libraries.

Sir,—I quite agree with the remarks made by "A Lover of Architecture" in his letter published by you last Friday. I am perfectly convinced that infectious diseases are spread by the loan books issued by public libraries. A year or so ago I was in the habit of taking novels home constantly for my niece to read from one of our City libraries, and she contracted scarlet fever. I immediately stopped taking home the books, whose leaves were often almost too dirty to turn over, and the covers so bad that we invariably covered them with paper before commencing to read them. The doctor was very emphatic in his assertion that it was owing to the handling of these dirty books which had brought on the disease, for my niece was a fine healthy girl, and we were living in the country noted for its exhilarating atmosphere, and where she would not be at all likely to catch such a disease.—Yours faithfully,

A Subscriber to *The Architect.*

September 6, 1905.

GENERAL.

The Obituary of the week includes the names
J. Kennaway Collings, whose books on Gothic detail
of great value, and of Thomas Edward Knightley, who
one of the cldest of the metropolitan district surveyors.

Mr. C. S. R. S. Kirkpatrick has been elected city engi
of Newcastle-on-Tyne. The other candidates in the
voting were Mr. P. K. F. Campbell and Mr. John Steel.

Sketch Plans for the proposed municipal buildings
Bournemouth are under the consideration of the Counci

Mr. G. Gemmell Hutchinson, A.R.S.A., has been com
sioned by the Lord Provost, magistrates and Town Cou
of Edinburgh to paint a commemorative picture of
forthcoming Royal Review.

Mr. Leopold Rivers, R.B.A., died on Wednesday,
30th ult., at his residence, Weston Park, Crouch End
the age of fifty-three. He exhibited in every exhibition f
1878 of the Royal Academy except on two occasions, an
1892 his "Stormy Weather" was purchased for the Chan
Bequest. Sir Aston Webb, R.A., purchased one of his t
drawings in the water-colour room at the last exhibitio

Mr. A. V. Ingall has taken into partnership Mr. E. Sta
Mitton. The practice at 3 Temple Row West, Birmingh
will be carried on under the title of "Ingall, So
Mitton."

Professor E. A. Gardner will deliver a lecture at Uni
sity College, London, on October 31, entitled "Architect
Sculptures."

The Crieff Town Council have received seventy-
applications for the post of burgh surveyor and sani
inspector, vacant by the appointment of Mr. G. D. Ma
to the water engineership of Clydebank. These have b
reduced to ten, viz. Arthur Leitch and A. M'Gill, Arbroa
J. G. Bruce, Kirriemuir; A. L. Reid, Bo'ness; A. B. Cr
Dundee; A. W. Alison, Crieff; J. Allan, Dumbarton; W
Young, Falkirk; A. B. Paterson, Dunbar; Peter Parr
Birmingham.

Mr. Percival Ross, C.E., president of the Bradf
Historical and Antiquarian Society, has, the *Yorkshire*
is informed, found and laid bare a turret on Cawfield Cr
not far from the Cawfields Mile Castle. This makes
sixth turret discovered since the late Mr. John Clayton
"The Chesters," and the late Dr. Bruce, of Newcas
found the one opposite Black Cart's farmhouse in 18
Mr. Ross is staying at Hot Bank-on-the-Wall, with
object of searching for these turrets, of which origina
there were two to every mile castle.

Mr. Fairbairn, of the Edinburgh School of Applied
has been engaged by the Dunfermline trustees to cond
classes in architecture two evenings weekly in the Lau
technical school, and arrangements are being made for
delivery of fortnightly lectures on design by a quali
visiting lecturer, whose lectures would be open to
interested.

The Worcester City Council on Tuesday decided
extend an invitation to the Royal Archæological Institut
Great Britain and Ireland to hold their annual meeting
Worcester in 1906.

A Room with mural paintings has been discovered
St. William's College, York, in the course of adapting
building as a place of meeting for the Northern Convo
tion.

The Whitechapel Art Gallery will receive 2,000*l.* out
the 100,000*l.* which has been given over by Mr. E.
Bawden, of the Stock Exchange, to be applied for phil
thropic purposes. The fund for advanced university edu
tion and research will receive 16,000*l.* to complete the s
of 200,000*l.* to bring about the incorporation of Univer
College in the University of London.

Workmen Employed near Peel, Isle of Man, in diggin
drain in connection with cottages for the new coastgu
station, turned up three fine stone axes. The axes w
claimed and taken possession of by the Government c
of works, but a strong wish has been expressed
Douglas that these interesting objects should not foll
many other relics which have been taken from the isla
but that they should find a resting-place in the M
Museum at Castle Rushen.

The Vienna Town Council has given to the Brah
Society a site in the Elizabeth promenade for the erect
of a Brahms Memorial House. The Society will have
defray the building expenses of the museum, which, af
its completion, will become the property of the town.

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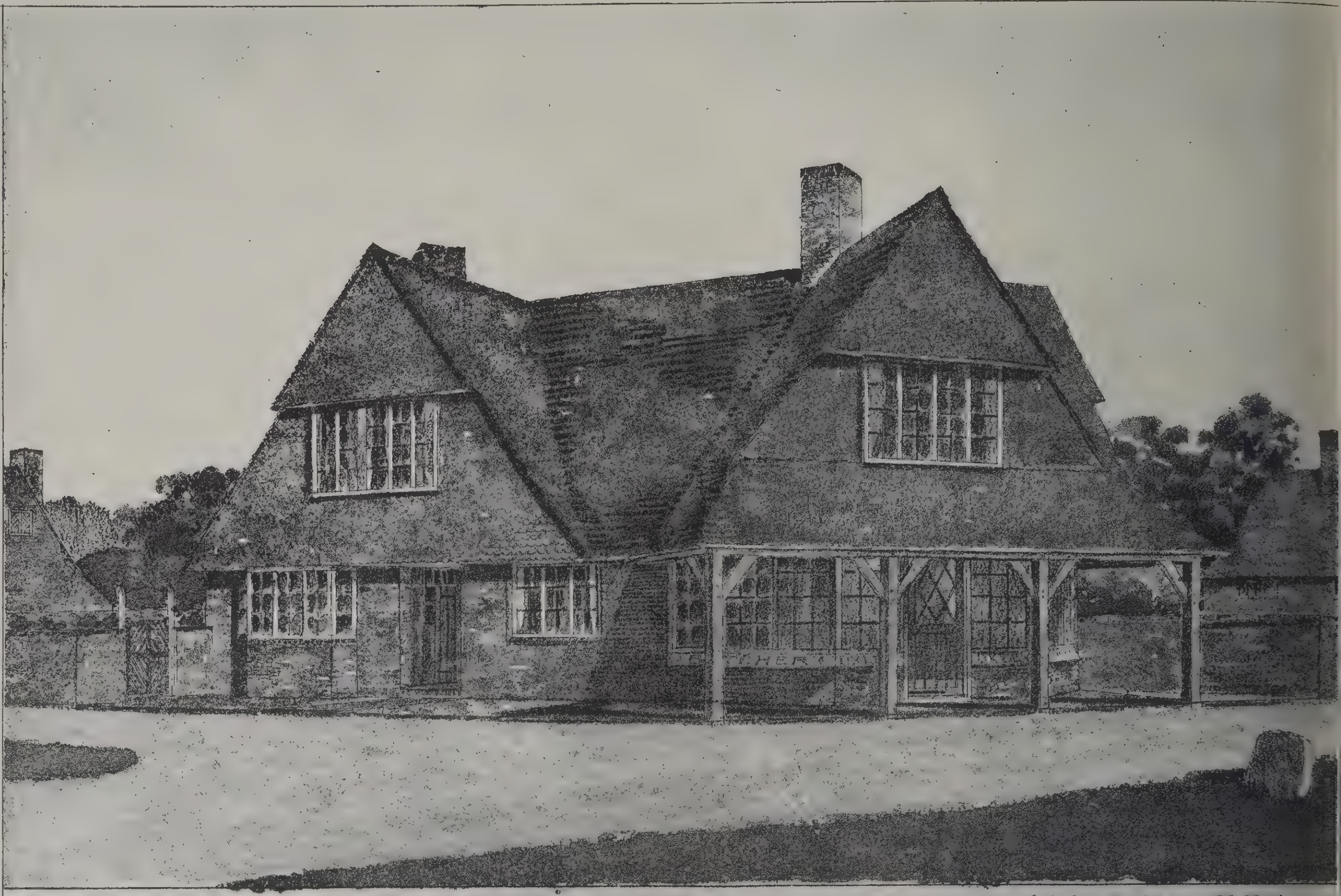
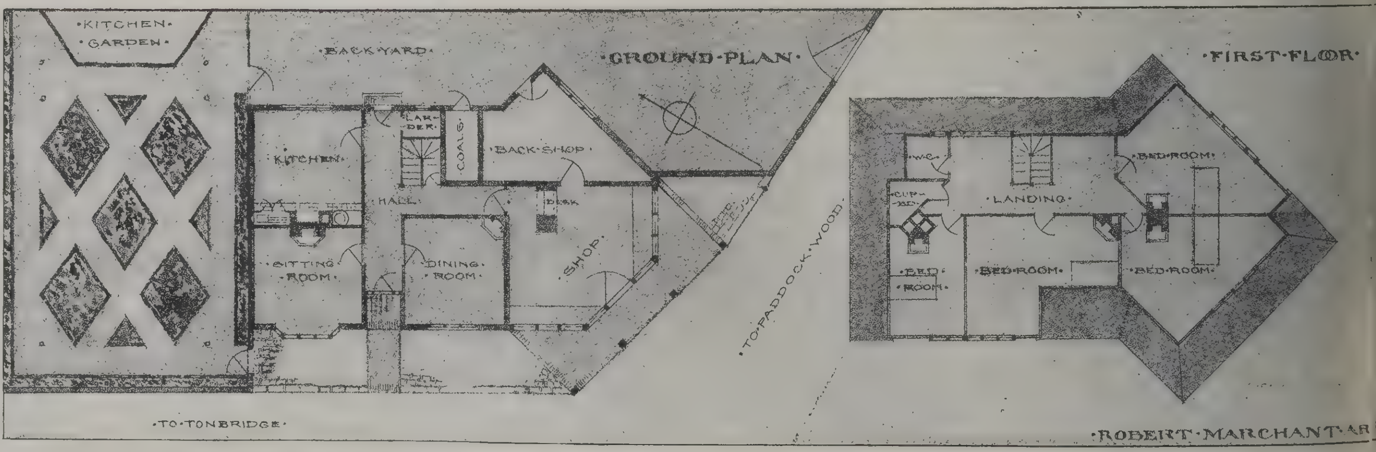


·BUTCHERS·SHOP AND HOUSE AT MATFIELD·GREEN·KENT FOR CHARLES·MARCHANT·ESQ·



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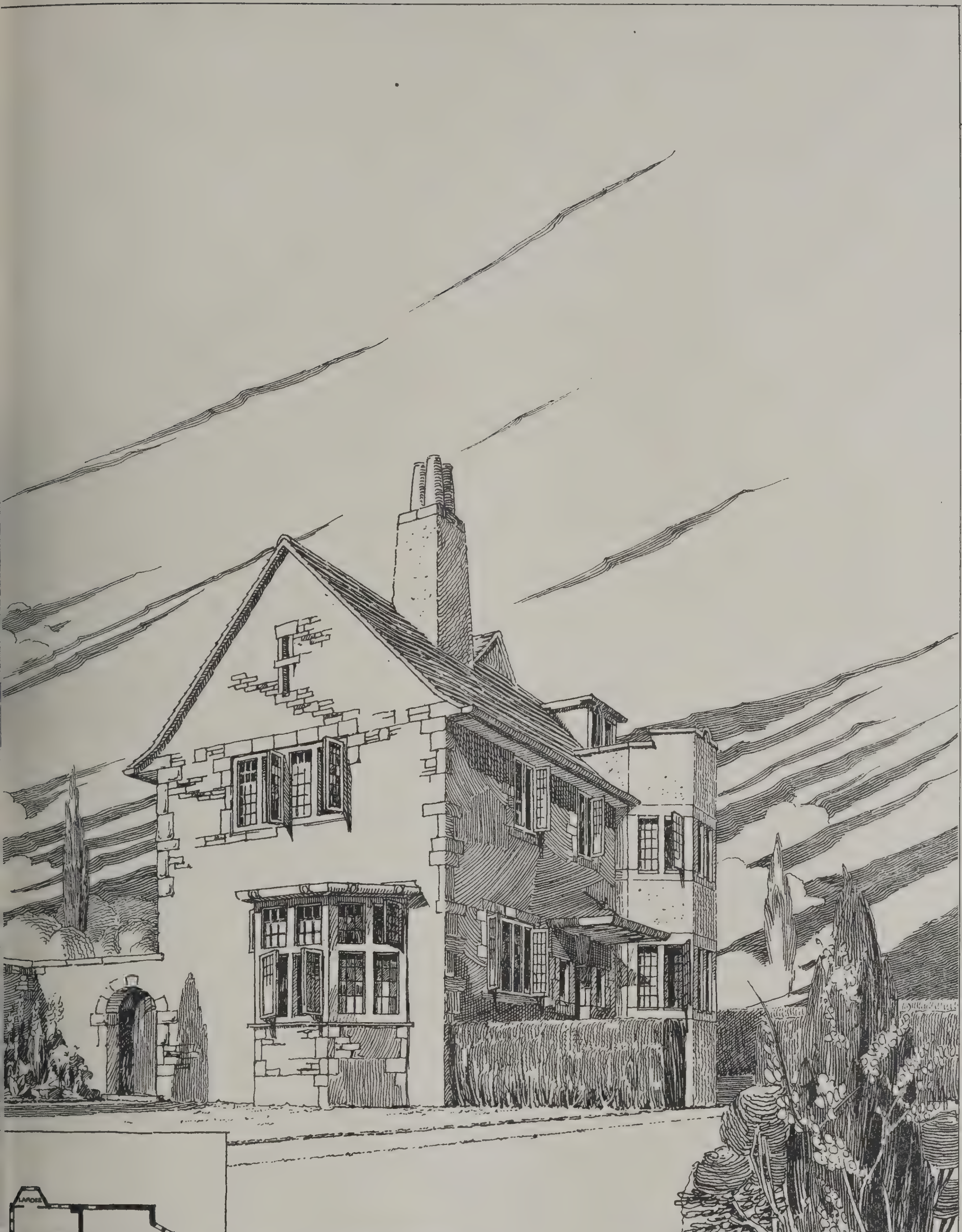

"CARSTONE", HUNSTANTON.
FOR MISS LUCAS.
H.C.IBBERSON ARCHT. 28 MARTINS LANE E.C.

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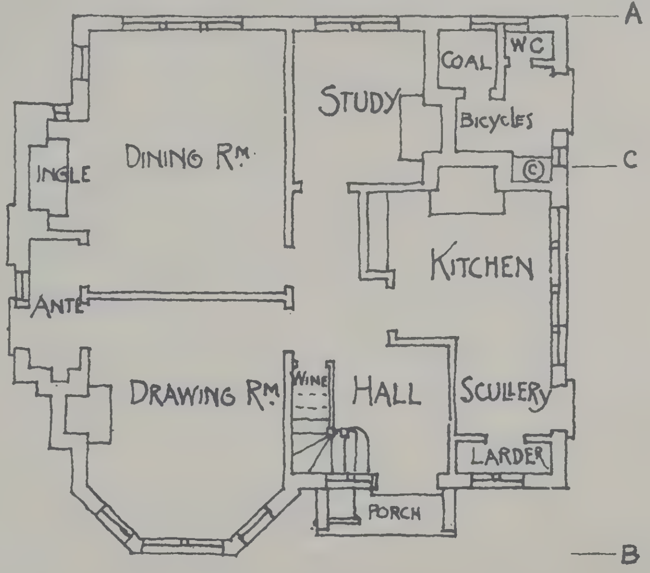

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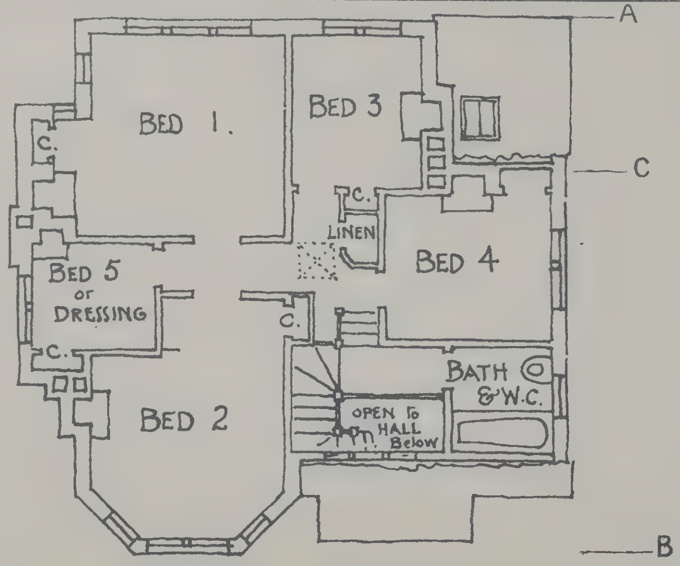
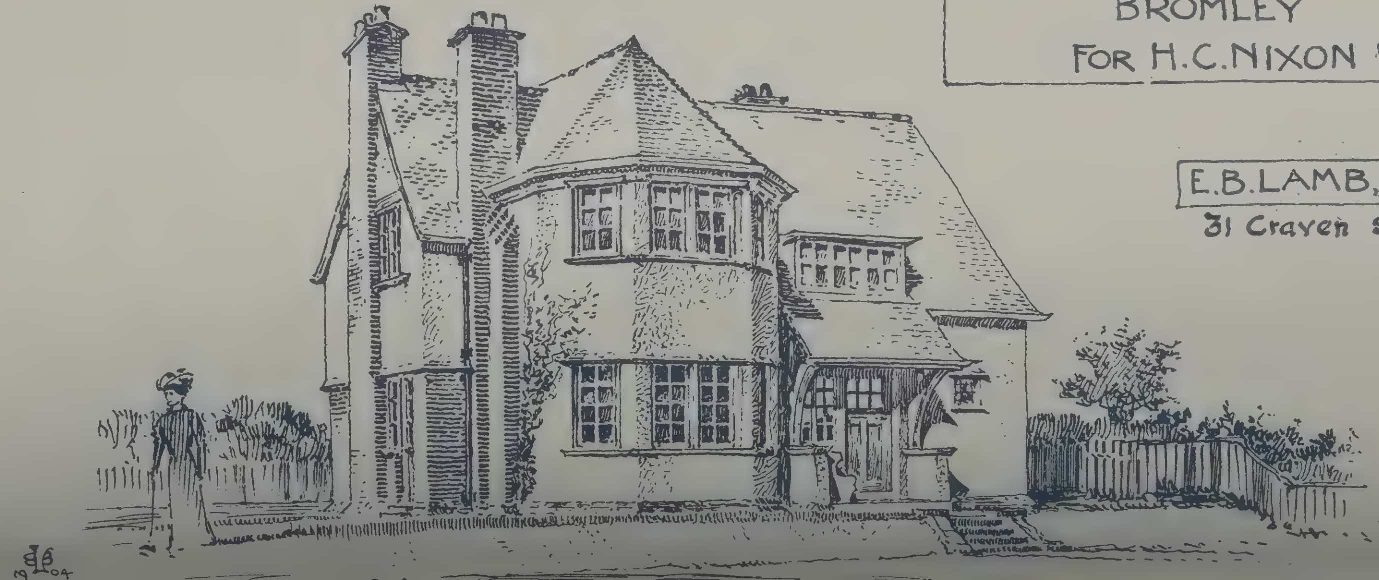


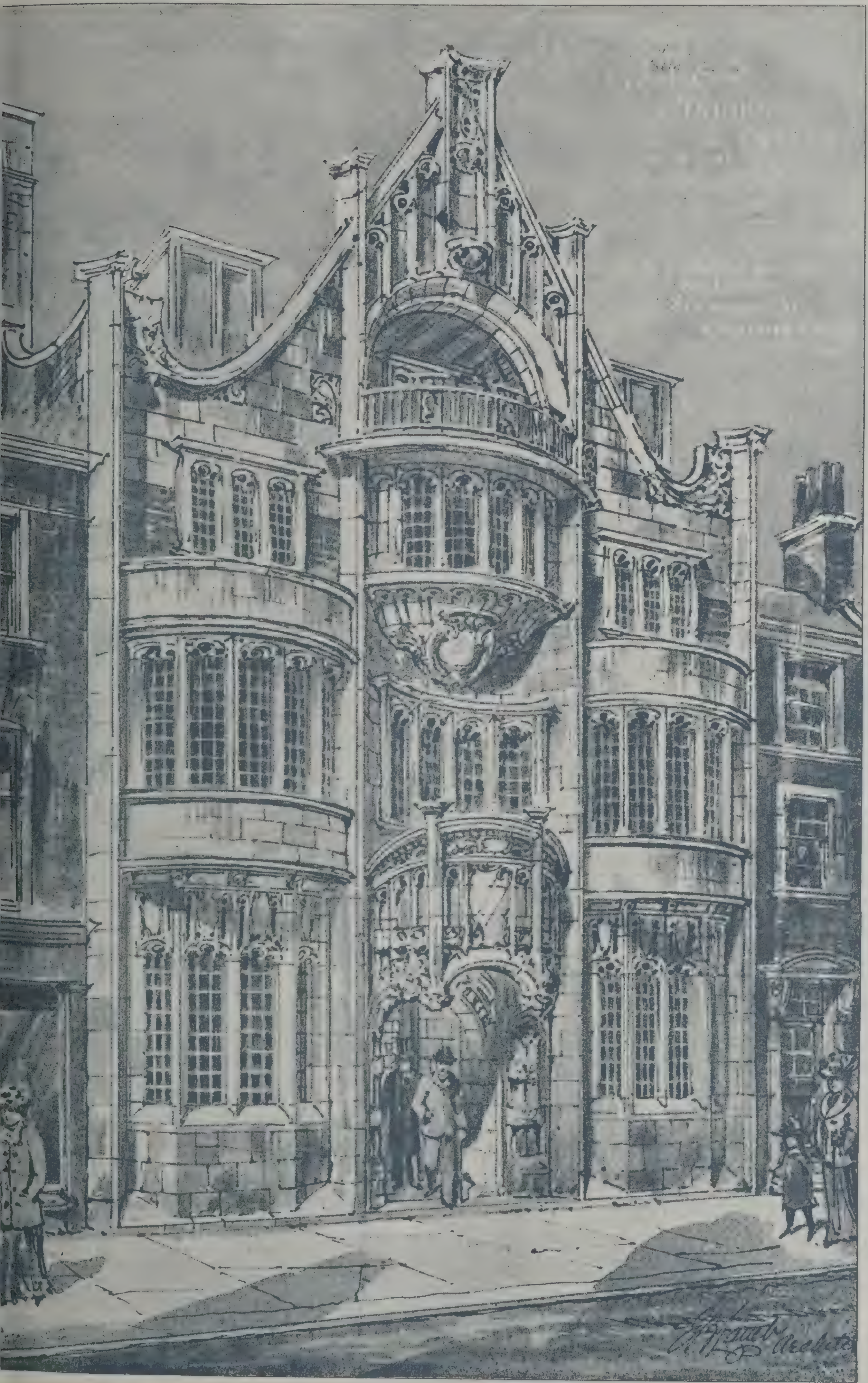
FIRST FLOOR

HOVSE AT SVNDRIDGE PARK
BROMLEY
FOR H.C. NIXON ESQ

E.B. LAMB, ARCHITECT
31 Craven St. Strand W.C



The Architect, Sept 8th 1905



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PROPOSED WEST END CHAMBERS AND OFFICES.

E. B. LAMB, Architect.

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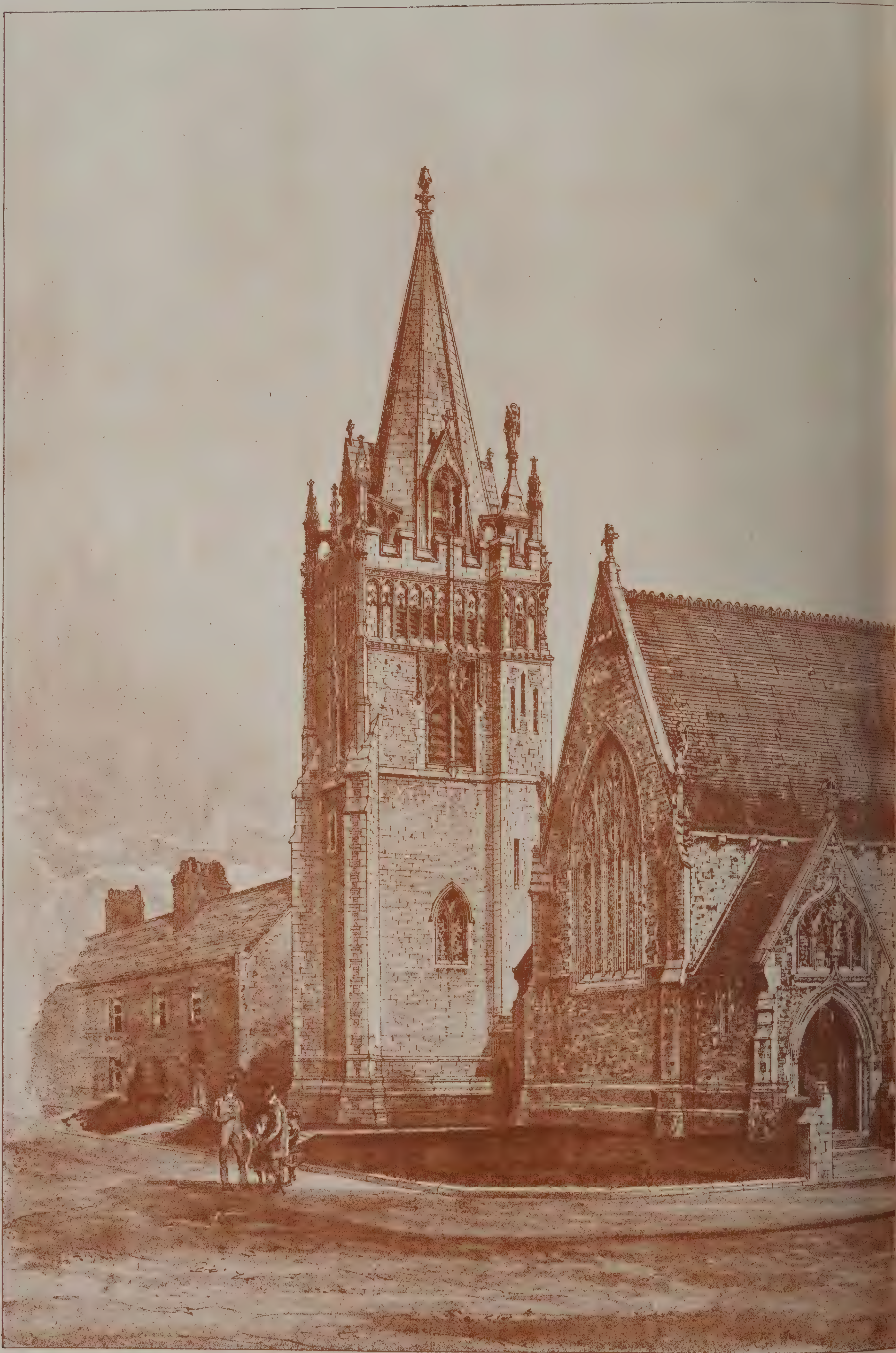
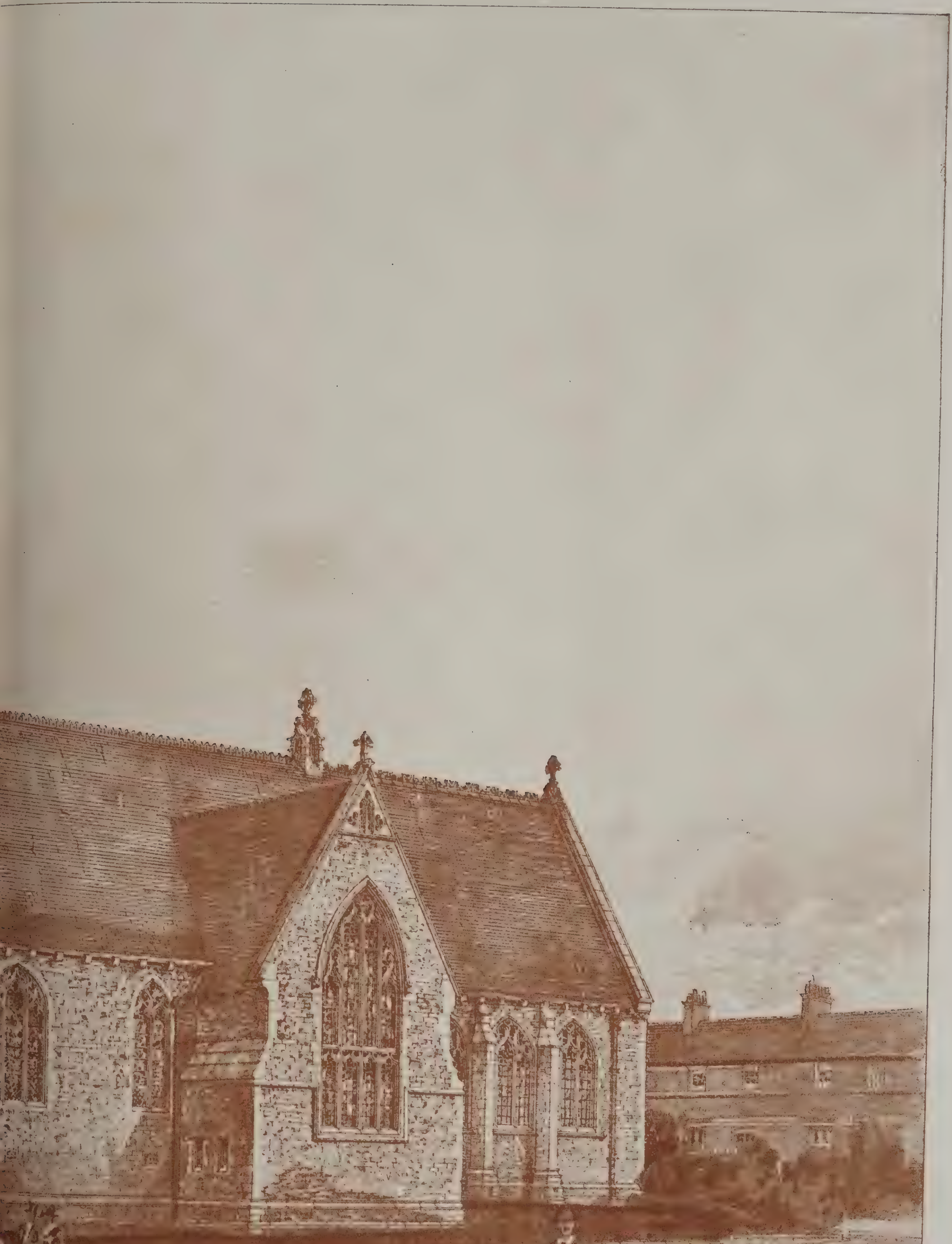


CHURCH OF OUR LADY OF TH

The late S. J



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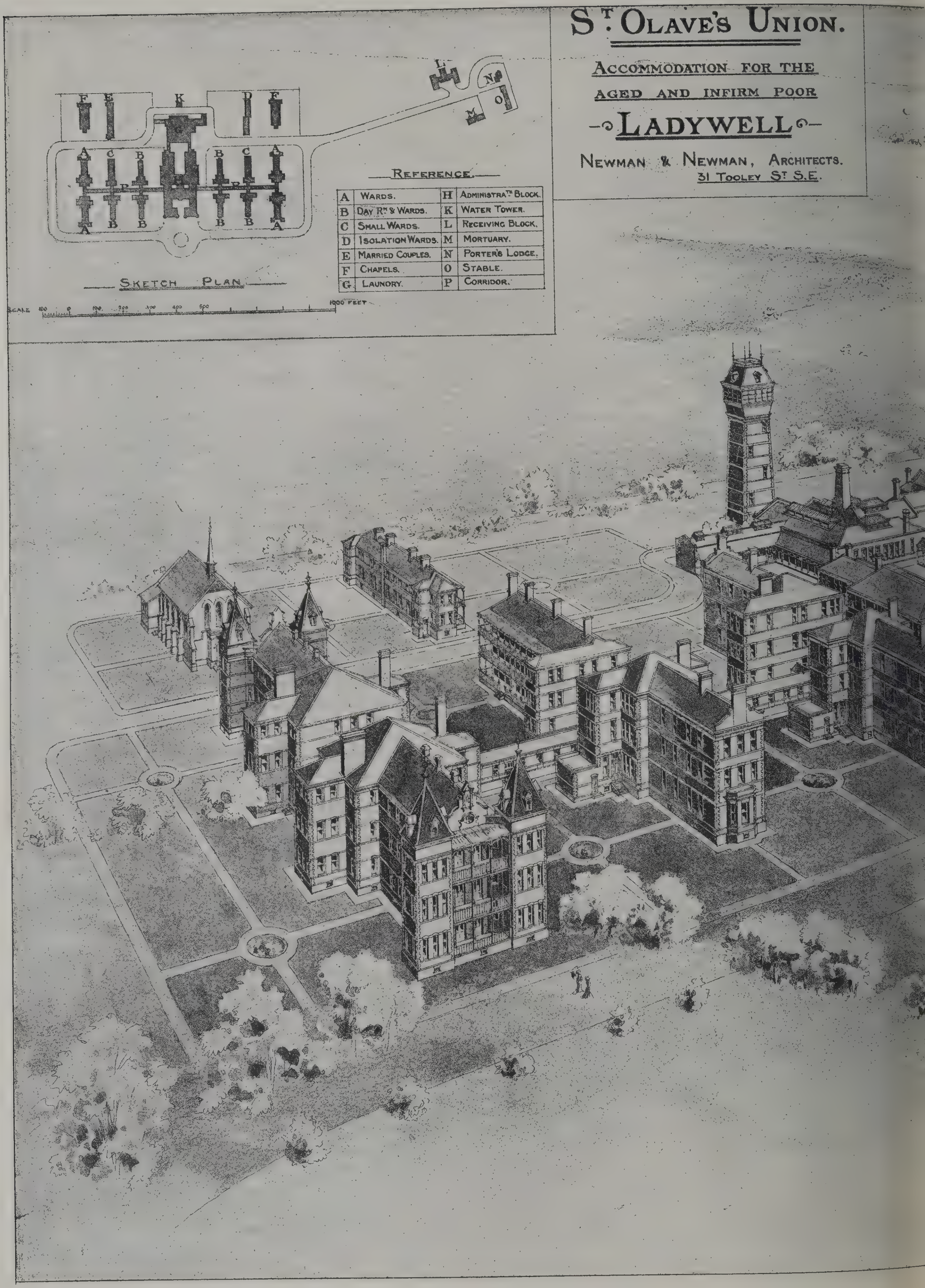

S^T. OLAVE'S UNION.

ACCOMMODATION FOR THE AGED AND INFIRM POOR

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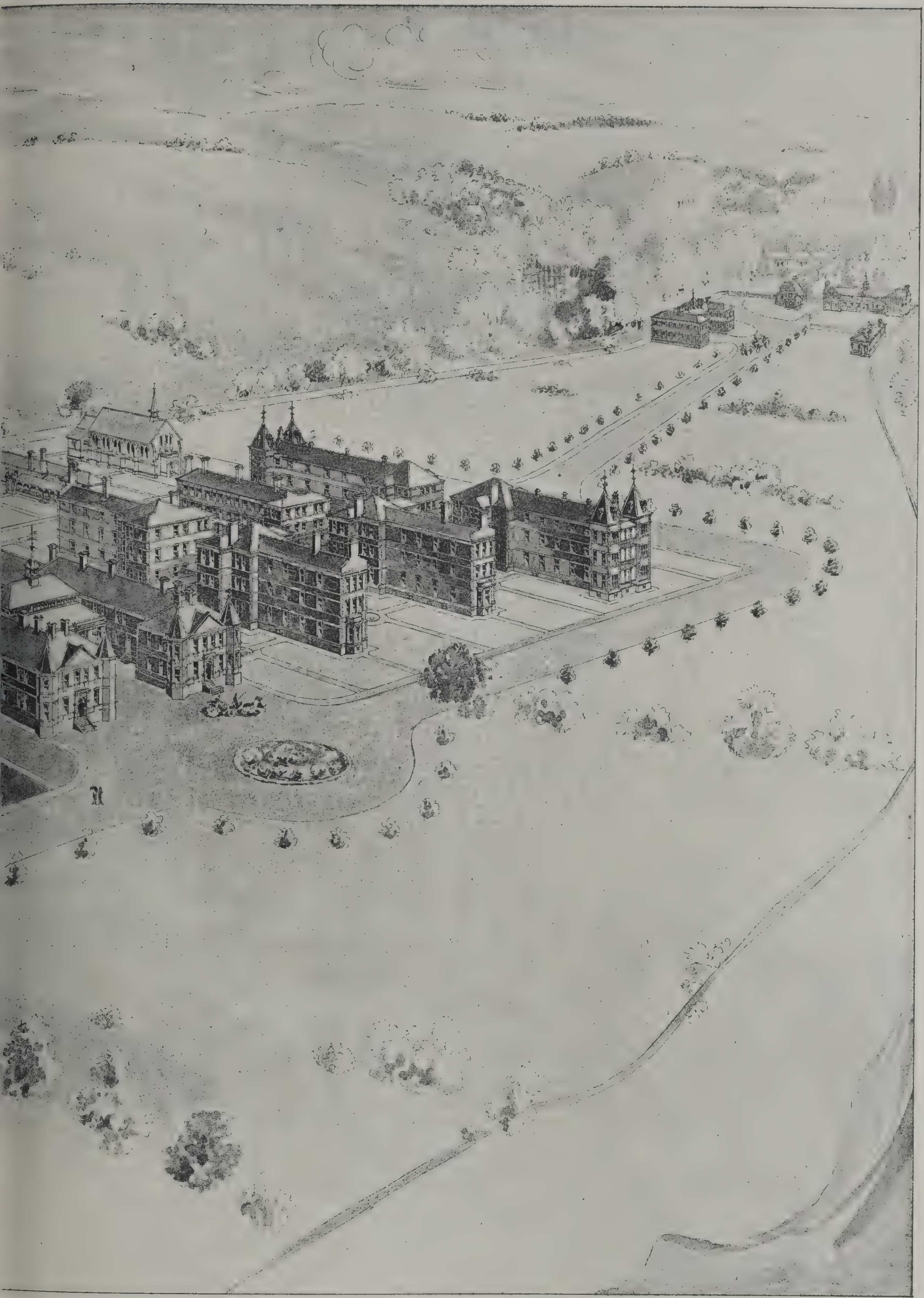
REFERENCE.

A	WARDS.	H	ADMINISTRATᴺ BLOCK.
B	DAY Rᴹ & WARDS.	K	WATER TOWER.
C	SMALL WARDS.	L	RECEIVING BLOCK.
D	ISOLATION WARDS.	M	MORTUARY.
E	MARRIED COUPLES.	N	PORTER'S LODGE.
F	CHAPELS.	O	STABLE.
G	LAUNDRY.	P	CORRIDOR.



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The Architect.

THE WEEK.

E silence which has been so long insisted on con- ning the condition of Winchester Cathedral has not n advantageous to the funds, for people have gined that there was no need of costly works. Now re is some alarm about a collapse before preventive asures are completely carried out. The subsidence he east end has reached such a stage, it is considered vise to leave the external wall on the south side un- ported until the spring, as was contemplated. Two e shores standing on granite blocks are now being up. If possible permanent works should at once be ertaken, but there are not sufficient funds available the purpose. The east end of the crypt beneath the chapel has also been shored. Various causes for subsidence have been assigned. One is the drainage Winchester, which affected streams which were eath the building and the adjoining ground also. re is no doubt that subsidences occurred even in the y days of the building. The remedial measures, it nticipated, will cost at least 10,000*l.*, which can only btained by public donations.

THE Alhambra is of more interest to strangers than Spaniards if the number of visits by both can be n as a test. It was, indeed, for the use of the lish that the first guide to the great Moorish palace fortress was prepared. It will therefore be worth rving what result the urgent appeal of the con- ator, Don MIGUEL TORTOSA, for funds to carry out spensable reparations, will have with the authorities people of Spain. The history of the building goes to 1248, and it is believed it was completed about . Under YUSUF I. the ornament which abounds in parts of it was regilt and repainted. After the ilian conquest most of the symbols were either oved or whitewashed. Then followed a long course eglect. In 1664 it became an asylum for debtors. rwards it was used for invalid soldiers and as a ict establishment. It was put into repair, but in style, towards the end of the eighteenth century. from that time its history has been disgraceful to n. The French in 1812 intended to destroy the mbra, but they only succeeded in demolishing eight e towers. Indeed, few buildings have suffered so rely at the hands of those who should be its protectors, the wonder is that so much remains to reward the or. It would be a crime if any parts were allowed llapse. But when the present condition of the ish treasury is considered there is little likelihood nerous grants to avert the impending evil.

HE remarkable ruins at Rhodesia have inspired al theories concerning their origin. Mr. RANDALL IVER, who has been studying them during several hs, has arrived at the conclusion that they are not than the fifteenth or sixteenth century. If that could be taken it would of course dispel the belief t their forming part of a great city from which MON and other monarchs derived their wealth. question arises, What people could have erected in the fifteenth or sixteenth century? Mr. VER is of opinion that they correspond with the rn dwellings of that part of Africa. Mr. HALL and s who have examined the ruins attach great im- nce to the slave pits, and there are hundreds within ited area. They are from 7 to 10 feet below the ce of the ground, are circular in form, the diameters ng from 15 to 28 feet. Mr. MACIVER believes hey are citadels around which concentric circles of were raised. The elliptical structure presumed to emple was, according to Mr. MACIVER, a fortifica- Concentric walls appear to have been a favourite of defence, and in one case there were no less than thirty-seven lines which would have to be forced before the centre was reached.

IF there were any sanitarians among the French naval officers who were lately received at Portsmouth, they must have been amazed in their perambulations in the track of their joyous sailors when they saw the slums which exist in the most national of the seaports, and especially at Portsea. During the last two years there have been examinations by the health committee, and estimates were made out concerning the purchasing of the houses and other works. In due course the estimates were submitted to the finance committee, and the result was the following entry in the minute-book:—"Resolved, that it be reported to the health committee that as to the Portsea improvement scheme, in the opinion of the committee the improvement is very desirable, but the cost is prohibitive and cannot be entertained without an increase in the general district rate, and that this committee is of opinion that the estimate of the cost of purchasing the houses comprised in the area of the Portsea improvement scheme is much too great, and that credit should have been shown for resale." At the meeting of the Portsmouth Town Council, where it was read, there were many protests. But the inevitable had to be accepted, for Portsmouth is not able to meet the expenses of the improvement, although it is recognised to be a necessity. At the same meeting it was proposed to add a tower to the new technical institute at a cost of 3,050*l.* There were twenty-two votes in favour of the tower and twenty-one against it. By a majority of one the project was therefore approved.

IN this country the majority of our officials would appear to exist for ornamental purposes. In America they are obliged to work. The United States Geological Survey certainly have opportunities to deal with fascinating problems. But the Government are not satisfied that they should occupy themselves with subjects which ordinary geologists should be competent to treat. It has, therefore, been decided that the Survey's laboratories are to be used for a year, at least, in tests of cement and concrete. The materials are so important at the present time in America that too much knowledge about them cannot be obtained. Everything employed for making mortar, cement or concrete will come within the range of the experiments, and it is expected that more will be discovered concerning their properties than is at present known. Another inquiry will relate to the structural value of timber, and how far artificial seasoning affects the strength. The work is not to be independent of outsiders as it would be in Great Britain. An advisory committee has been formed of representatives of all varieties of engineers, architects, cement manufacturers, underwriters, who will give their co-operation to the officials. By that means the results of the experiments will bear a character which will make them acceptable by practical men.

THE announcement that the Villa Palmieri, in Florence, is about to be offered for sale will give rise to a general desire that an English purchaser will be found. For nearly two centuries it has been in the possession of English gentlemen or ladies, and it has, therefore, in Florence almost acquired the right to be considered as an English institution. But on other accounts it is interesting. It is supposed that the grounds of the Villa Palmieri formed the garden in which the famous stories of BOCCACCIO were related. The place is therefore from its literary associations of immortal interest, for as long as the world lasts people must be indebted to the man who may be said to have created the short story, and who was the first to use the Italian language gracefully. BOCCACCIO was not the equal of DANTE, and PETRARCH was a more learned scholar. But he realised that literature could afford enjoyment to people whose education had not advanced beyond the elementary stage.

THE LONDON BUILDING ACT OF 1905.

THERE is no doubt about the Metropolitan Building Act of 1844 having been called into existence through apprehension of fire. The numerous Acts which have since been passed had also more or less regard to protection against that enemy of buildings. The measure which is to be cited as the London Building Acts (Amendment) Act, 1905, is declared to be intended to confer upon the London County Council powers which will at least secure the provision and maintenance of proper means of escape from buildings in the administrative county of London. It is well to remember that the powers of the latest Act are limited to one purpose, for "the Act of 1894 and the Act of 1898 and this Act may be cited together as the London Building Acts, 1894 to 1905."

In carrying out the regulations it is likely that the partial character of the new enactment may lead to misinterpretation. For instance, in the Acts of 1894 and of 1898 certain materials are mentioned as fire-resisting, but they are superseded by the Act of 1905, those described in which alone are to be taken as fire-resisting materials. Fortunately the narrow limits of the Amendment Act will enable an architect to understand its relation to its predecessors.

"Owner" was in the Act of 1894 applied to every person in possession or receipt either of the whole or of any part of the rents or profits of any land or tenement, or in the occupation of any land or tenement otherwise than as a tenant from year to year or for any less term, or as a tenant at will. In the new Act "owner" means the person for the time being receiving the rack-rent of the premises in question, but as regards the fees payable to district surveyors "owner" receives the very liberal interpretation it did in the Act of 1894. "Rack-rent" is to be taken as meaning rent which is not less than two-thirds of the full annual value of the premises. "Upper storey" is a new phrase, and means any storey of which the level of the upper surface of the floor is more than 50 feet above the footway of the front of the building, or, if there is no footway, above the level of the ground before excavation. A "high building" means any building any storey whereof is an upper storey as before defined. "New building" means one commenced after January 1, 1906, or which has been commenced to be re-erected, or of which the cubical extent has been increased after such date. "Existing building" means any building not being a new building. A "certified building" is one which the County Council or the Tribunal of Appeal have certified as provided with the means of escape required under the Act. "Plans" are to be taken as meaning plans, sections and elevations.

Section 7, which follows the definitions, enacts that every new building (except a dwelling-house occupied as such by not more than one family) which is a high building, or in which sleeping accommodation for more than twenty persons is provided, or which is occupied by more than twenty persons, or in which more than twenty persons are employed, shall be provided with all such means of escape therefrom in case of fire as can reasonably be required under the circumstances of the case. On the plans prepared for such new building for submission to the County Council, the means of escape proposed are to be shown. The Council, within the period of one month after the deposit of the plans, are to approve or refuse to approve of them, and to state fully their reasons for such refusal. No upper storey of any high building is to be occupied or let until a certificate that there is sufficient means of escape has been issued. If in any certified building the sleeping accommodation is substantially increased, or the number of occupants or persons employed is increased the certificate issued shall thenceforth be void and of none effect, and the building shall thenceforth cease to be a new building and become an existing building. The Council are not authorised to require any means of escape from any storey other than an upper storey. The continuous occupat during rebuilding of any portion of a building wh has been partially taken down, burnt or destroye permitted according to Section 8.

Section 9 enacts that from and after January 1907, if the Council are of opinion that a high build or a building in which twenty persons sleep, occupy are employed is not provided with sufficient means escape in case of fire, they can serve a notice on owner insisting that such provision shall be made. requirements are to be specified in detail, and if owner does not comply or fails to execute and do necessary works and things with all practicable spatch, a petty sessional court may make an order p hibiting the occupation of the building or any part o the cost of the proceedings being left to the discret of the Court. A register is to be kept in the county of all such orders.

Section 10 relates to shops which project 7 feet more beyond the main front of any building. projecting portion is to be provided with a roof c structed of fire-resisting materials not less than 5 inc thick. Lantern lights or ventilating cowls can placed on the roof if they are at least 6 feet from main front of the building. The sides of such lant light or ventilating cowl—except the side facing av from the main building—should be carried up in fi resisting materials for 2 feet above the roof. No li or cowl is to have a height of more than 5 feet ab the roof. The provisions of the section are to apply existing as to new buildings. But the Council or Tribunal of Appeal may exempt a building from all any of the provisions of the section.

Section 11 gives rules respecting living-rooms o premises used for storage of inflammable liquid, such petroleum, bisulphide of carbon, ether, turpenti methylated spirit, &c. There are to be adequate sa guards to prevent the spread of fire from the part of building used for the storage of inflammable liquid such rooms, and means of ready escape from such roo or workshops in case of fire.

By Section 12 projecting shops and every other exist building (except a dwelling-house occupied by not m than two families), and every new building having m than two storeys above the ground storey or exceed 30 feet in height, must be provided by the owner w either a dormer window or a door opening on to the r with proper access thereto, or a trap-door covered w copper or zinc and hung on hinges so as to open to fullest extent, and furnished with a counterweight so to insure that the same will open automatically wh unfastened, and also with a fixed or hinged step-lad leading to the roof or other proper means of acc and with a sufficient parapet or guard-rail wh reasonably practicable or necessary to prevent pers slipping off the roof. Any dormer window or trap-d is to be fastened only in such a manner as to ins access to the roof being always readily available fr the inside of the building.

By Section 13 the conversion of buildings will not allowed without the consent in writing of the Cour The expression "convert" is to include any change user, whether involving any structural alteration or

The means of escape are to be maintained in g condition and repair, and in efficient working or The owner of a building can enter it or any part it and do whatever is required under any of the p visions of the Act, notwithstanding any provision in lease to the contrary.

Under the Act the responsibility of the dist surveyors is increased. The execution of every w required by the Act is to be subject to the supervis of the district surveyor of the district in which building is situated. Particulars of any means escape required by the Council or the Tribunal Appeal are to be furnished to the district surveyor, it is to be his duty to ascertain that the means escape are properly provided and to report to ouncil any failure to provide them. In cases relating projecting shops or means of access to roofs the strict surveyor is to report whenever they are not in nformity with the provisions. He has also to notify e Council concerning every building about to be ected in his district in which protection against fire ould be provided. For all such work he is to be paid s which shall be in addition to those payable under e Act of 1894.

Section 19 exempts an owner from penalty on proving court that the offence was committed by an occupier any other person. An owner of a building who has id or incurred expenses for works in respect of a ilding can apply to the County Court of the district d obtain a summons, and the Court can make an der apportioning the expenses among persons having estate or interest in the building. Where an occupier stains any damage by the construction of works, his im is to be referred to arbitration in order to determine how such damage should be borne by the persons erested in the building.

The sections we have given relate to the parts in ich our readers are likely to have most interest. hat will constitute "fire-resisting materials" are scribed in the schedule which will be found on another ge.

The remainder of the Act relates to the procedure appeals, the power of the Council and their officers d district surveyors to enter, inspect and examine y building, structure or premises when there are sonable grounds for thinking that the provisions of Act should be applied to it. A list is given of ences against the Act and the liabilities incurred. ere are also exemptions, such as buildings belonging the Government, the Stock Exchange buildings, tain railway buildings, &c. The final clause states t "All expenses incurred by the Council in carrying s Act into execution, and not otherwise provided for, ll be deemed to be general expenses incurred by the ncil, and shall be raised and paid accordingly, and costs, charges and expenses preliminary to and of incidental to the preparing, applying for, obtaining passing of this Act shall be raised and paid by the ncil in like manner."

If the opponents of the Bill in Parliament are to be itled to their costs, charges, and expenses the amount e met will be heavy. During the session there was Bill which was so hotly contested. Much had to be ificed, and there are many people in London who eve that the parts which survive will cause great nvenience in their realisation. It is never wise to phesy about the future of an Act of Parliament. In case there is a definite object to be obtained by the visions, and it is one of vast importance, for it means protection of human beings from the ghastliest of ths. Owners of property will no doubt have to the expenses of introducing means of safety. But would hardly suppose that the country should ertake to remedy defects which were caused by their indifference or that of their predecessors in the perty.

THE ARCHITECTURAL REFINEMENTS PROBLEM.*

the Diary of John Evelyn, under the date of August 27, 1666, there is the following entry:—

> went to St. Paule's Church, where with Dr. Wren, Mr. Mr. May, Mr. Thos. Chichley, Mr. Slingsby, the Bishop ondon, the Deane of St. Paule's (Dr. Sancroft) and ral expert workmen we went about to survey the rall decays of that ancient and venerable church, and t downe in writing the particulars of what was fit to be with the charge thereof, giving our opinion from le to article. Finding the maine building to recede outwards, it was the opinion of Mr. Chichley and Mr. Prat that it had ben so built *ab origine* for an effect in perspective, in regard of the height; but I was, with Dr. Wren, quite of another judgment, and so we entered it; we plumb'd the uprights in severall places.

It would be interesting to have an explanation of the reasons which made Chichley and Prat believe that they had before them an attempt to produce certain effects through departure from the ordinary laws of building. Both could be considered as shrewd men who were unlikely to be beguiled by fancy. Prat was an architect and an old friend of Evelyn's. They had travelled through Italy and lived in Rome together. He was the architect for the famous house at Piccadilly which Clarendon erected, and which was, according to Evelyn, "the best contriv'd, the most usefull, gracefull and magnificent house in England." Chichley was a Privy Councillor, a Commissioner of Ordnance, and, later, Master of Ordnance. Prat had examined many more buildings than Wren, and may have discovered or was informed that Gothic architects sometimes deviated from verticality and horizontality in order to gain what Evelyn considered to be perspective effects.

The controversy which took place at Old St. Paul's on August 27, 1666, has been renewed. Are we to suppose that the Mediæval builders deliberately departed from what might be called the common-sense rule of building without having a definite purpose in view? Or were they sometimes incompetent to make piers and walls vertical throughout their whole height, or unable to lay out plans with rectangular lines? Or are we to imagine that the ground was the delinquent and through settlements distorted the buildings? These questions received no attention during a long period. The destruction of Old St. Paul's might be considered as giving a quietus to the subject. People made careful measurements of buildings, and after doing so were convinced that the regularity which had been taken for granted was an undoubted fact. This confidence in correctness was not confined to Gothic churches. The engravings in Stuart and Revett's "Athens" are marvellous in the minuteness of their measured details. But in spite of the exactitude with which every line was traced the two surveyors did not realise that both in the columns and the platforms of the Parthenon the lines which were represented as straight were in reality curves. The eye often sees what the mind dictates, and although such a refinement had been indicated by Vitruvius it was not perceived by Stuart and Revett. Probably, if they were exact, men would be then found in England to demonstrate by laws of logic that the surveyors were mistaken, for the lines of the masonry must be right lines, and that the people of Athens would not have tolerated any departure from mathematical truth.

There can be no question that departures from right lines are to be found on investigation in many buildings in Europe besides the Parthenon. In the exhibition which has been promoted by the Edinburgh Architectural Association of the photographs and surveys which Mr. W. H. Goodyear has produced there are nearly 300 examples. Some show horizontal curves in plan, both in temples and churches; others show vertical curves. Many present perspective illusions; others are taken as examples of constructive asymmetry. It is easy to have errors in drawing, and photographic lenses often have a tendency to show vertical lines as sloping inwards, especially those which are near the sides of a view. But the photographs obtained by Mr. Goodyear are very different from those which are produced by inferior lenses, and from the system he employed we think it may be taken for granted that they all are accurate representations, and that no obliquity is exaggerated.

We should bear in mind that the discovery of the deviations shown was no sudden affair. Mr. Goodyear began the study at Pisa in 1870. In 1895 the Brooklyn Museum undertook the prosecution of the investigation,

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Illustrated Catalogue of Photographs and Surveys of Architral Refinements in Mediæval Buildings. Lent by the tlyn Museum of Arts and Sciences. (Edinburgh Architectural iation.)

and an architectural surveyor and engineering expert was engaged to assist him. The work occupied six months; three months were devoted to it in 1901, and in 1903 there was another survey. But that time was insufficient to deal with more than a limited area of Europe. Although, as we have said, there are about 300 drawings and photographs, there are parts of Europe which were not investigated.

It is evident that the deviations were not invented by Mediæval architects. Horizontal curves have been found in the temple court of Medinet Habou, in the Temple of Neptune, at Paestum, and the Maison Carrée at Nîmes. Procopius in describing San Sophia says that the interior "rises from the ground not in a straight line, but setting back somewhat obliquely." Ruskin, like many artists who are not architects, did not esteem lines or surfaces which were mechanically correct, and he spoke of a preconceived, intentional and subtle avoidance of formal regularity in Italo-Byzantine-Romanesque structures. M. Choisy says that generally the Mediæval architects avoided a cold regularity and that they were negligent by calculation. Mr. Fergusson also in describing the cathedral of Poitiers says, "Its most remarkable feature is the convergence of its sides towards the east, and as its vault sinks also towards that end, a false perspective is attained which certainly at first sight gives the church an appearance of greater length than it really possesses." It is therefore evident that in the nineteenth century there were some writers who recognised, although in a rather hesitating manner, the divergencies which existed in various buildings. The way, in fact, was being prepared for Mr. Goodyear's investigation. His observations have been confirmed in some cases by men who have charge of the buildings. Signor Saccardo testifies to gables and pinnacles at St. Mark's, Venice, being inclined forward like pictures or statues. The occurrence of deviations, he says, is too uniform to be considered merely accidental. Similar testimony has been given by others. It may therefore be concluded that deviations exist and that they correspond in character and extent with those represented in Mr. Goodyear's photographs and drawings. It is needless to say they are not put forth as being adapted for imitation in modern buildings.

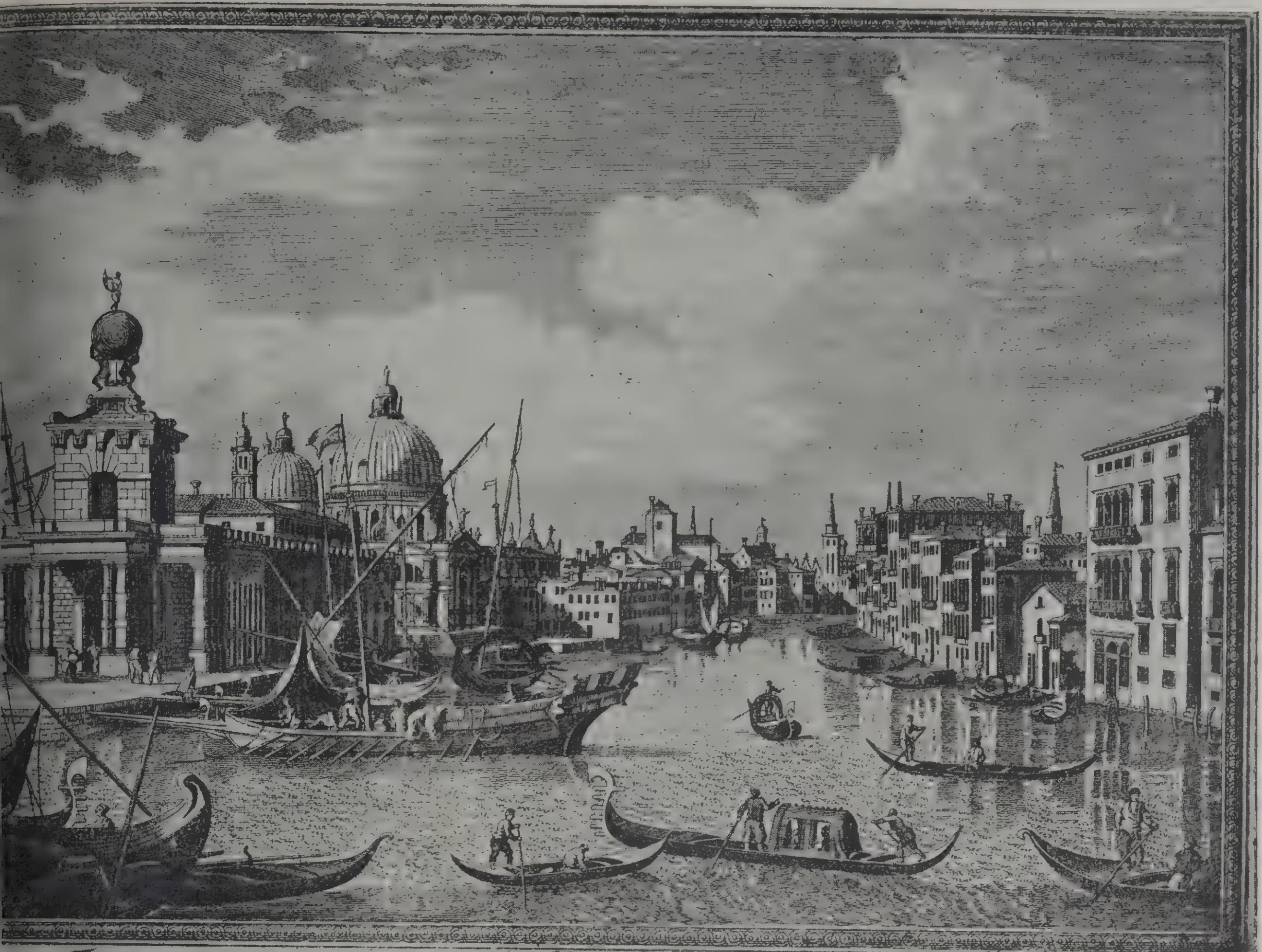
The more important question perhaps is "How did the deviations occur?" Viollet-de-Duc asserted that some Romanesque vaults which people suppose were built in elliptical forms have acquired that curve through the divergence of the piers. He believed that the Pointed arch arose out of the endeavour to prevent alterations in the contour of Romanesque arches. Owing to the verticality of the Pointed arch there was less of an outward thrust than was inevitable with the Roman or the Romanesque arch. In his description of the cathedral of Amiens he says, as a proof of Gothic stability, that the nave "has never been distorted or thrust outward. The construction has not experienced any perceptible change." It has been ascertained, however, by Mr. Goodyear that there is a divergence of 34 inches throughout the nave and choir. Viollet-le-Duc evidently did not plumb or measure the piers of the nave. In 1805 a settlement of 3 inches caused great alarm. What would have happened if the supports had accidentally widened to the extent of 34 inches? There are no signs of fissures which would suggest a convulsion of the kind which would be necessary to produce so serious an alteration. It is also curious that, although Viollet-le-Duc was not aware of the divergence, two of the servants of the cathedral knew of it, and said it amounted to about a metre. They spoke of it as if it were a tradition known to all the world. There is no record to show that the builders of the cathedral of Amiens intentionally arranged the piers in a manner which now seems amazing. It could hardly be an oversight, for one on such a scale would be likely to cause a catastrophe. The explanation which Mr. Goodyear has been able to obtain from "one of the greatest experts of our day" is "that a vaulting thrust should be thrown directl against the line of resistance in the flying buttress. A slanting resistance tends to drive the flying buttres upward, to rip up the masonry, and to dislocate th construction. To anticipate this evil the vaulting thrus is thrown fully and squarely against the inclined line o resistance by a corresponding inclination." Thes words impart a new interest to Mr. Goodyear's investigations of divergencies in piers. We are not to consider the divergencies solely as aids to appearances, bu as efforts to attain constructive ends at a time when i was not possible by concealed beams and stanchions o steel to diminish the effects of the thrusts, compression and other strains from the masonry.

Mr. Goodyear, as we have said, began his investigations at Pisa, and his discoveries at the cathedra and minor churches are remarkable. But a case whic all can understand is that of the leaning tower. Eve in childhood one wonders how it has stood so long, fo if it began to fall or lean over, why was it stopped midway? We all know the real tower does not correspond with the illustrations in the old-fashione geographies for children. Mr. Goodyear has closel scrutinised it, and measured it and plumbed it, and ha come to the conclusion that it was originally built as i now stands. The weights appear to be adapted to a inclined building, for the staircase is not uniform in it parts. He says, "It has been contended that the step would be level if the leaning construction were intentional, but this appears to be reading too deeply int the intentions of the builders. In contemplating a *tour de force* they would hardly have given so easy a solution to the problem which they were bequeathing t later ages." It is also remarkable that the earliest statement comes from Vasari, who is not always trustworthy, but other Italians believe that this architectura freak was a deliberate attempt to astonish onlookers and not the result of an accident.

There can be no doubt about Mr. Goodyear's honesty in endeavouring to throw a light on an obscur part of the history of architecture. He went to wor in the right way and he has obtained most valuabl evidence. An American has as much right as a Englishman to deal with the subject, although ou national conceit has inspired us with a belief that we hav already ascertained all that is knowable about Mediæva architecture. It is, therefore, not creditable to us although it suggests our vanity, that the exhibition o Mr. Goodyear's photographs and surveys should hav to be held in the National Portrait Gallery of Edinburgh The love of knowledge is so prevalent in Scotland there is a desire to become acquainted with al sides of a subject, and the photographs offer a problem which can try the intellects of others beside architects. But it does not look well in the eyes o American or foreign architects that such an exhibitio cannot be held in London where there would b numerous critics. The reasons are well known, an they arise from that peculiar cockneyism throug which a few men imitating the three tailors of Toole Street pose as "We, the architects of England." Ther is, unfortunately, not enough artistic spirit in others t test those assumptions. It is, however, architects wh will suffer and not Mr. Goodyear.

CANALETTO'S VIEWS OF VENICE.—VIII.

WHEN he arrived at the Dogana di Mara Canaletto must have rejoiced at being able to tak it from the front, because from that point of view h could represent the side of the Grand Canal which wa opposite to the views he had given. The view, o course, does not represent the buildings as they are a present, for the providing of English hotels at that par of the Grand Canal has brought about many alteration The Dogana or customs-house only dates from 1682; i was designed by Benoni. Economy and a respect fo



The entrance into the City of Venice at the head of the Grand Canal.

great church of Santa Maria della Salute obliged the hitect to keep the building low. The ball, which is posed to represent the globe, is surmounted by a ure of Fortune that serves as a vane. It is curious t Fergusson should have admired the Dogana. He s of it :—"Whatever may be its defects of style in ail, there is no building in Europe more happily igned to suit the spot in which it stands, or which is ter proportioned to the surrounding objects. With se merits it would be difficult for an architect not to duce a building that must be more pleasing than ny that are more correct."

If the picturesque were alone to be considered, NGHENA's church would have been preferable to rk the entrance. But it should be remembered that, ough religion was prized in Venice, if we may judge the vast number of churches and monasteries, it was entially a city of commerce, and therefore a place for levying of customs dues. The building, and it was the only one, was a symbol which recalled the ory of Venice.

Everyone knows that the first inhabitants of the mpy islands were refugees from the province of etia on the mainland of Italy, who had fled when ILA, the anointed curse of Europe, invaded their itory. It seemed to be a forlorn hope, for the erous islands were barren, and it could not be posed that men and women would live in the same dition as the water-fowl. According to the legend, refugees belonged to noble families, and this belief ably arose from the assumption that ordinary men ld not have the courage to endure the privations ch awaited them. It was impossible to raise a crop such a soil, and the settlers were therefore com- ed either to become traders or to starve. They n apparently with salt, for the production of which the place offered facilities. They traded all around the coast of the Adriatic, and then made acquaintance with the more easterly part of Europe and with Asia. In exchange for their salt and fish they were able to obtain wool, silk and metals, which in time they learnt how to manufacture. Western Europe wanted luxuries, and Venice could supply Eastern goods. The success of Venice is evident when we find she was able to enter into political relations with what was then called the Greek Empire, and thereby incurred the enmity of Charlemagne. At first the inhabitants of the various small islands were independent, but it was not long before they were shrewd enough to realise that it was only by union they could exist with so many enemies near them. It must not be supposed that as her prosperity grew the people set about the erection of a city of palaces. All who have endeavoured to master the early history of Venice will acknowledge that there is much truth in what Mr. Ruskin wrote, that "for seven hundred years Venice had more likeness in her to old Yarmouth than to new Pall Mall, and that you might come to a shrewder guess of what she and her people were like by living for a year or two lovingly among the herring-catchers of Yarmouth Roads, or the boatmen of Deal or Boscastle, than by reading any lengths of eloquent history."

The Crusades made Venice appear as a central station. From it alone the class of boats could be obtained which were needed to convey the armed knights, the horses and their attendants. It did not display the same kind of enthusiasm which animated other parts of Europe. In the Fourth Crusade they were able to make arrangements for despatching 4,500 horses, 9,000 squires, 4,500 knights and 20,000 foot soldiers. The terms enacted by the Venetians were hard, but the warriors were as ready to sacrifice their money as their blood. When the Crusades were over Venice had attained unexpected importance, and it might be supposed that the period from the twelfth to the fourteenth centuries was the time of her greatest prosperity. As we have remarked, Venice preferred to import luxuries; they were of comparatively small bulk, easy to carry and could be sold at an immense profit. Other cities sought to imitate Venice. Roger II. carried off all the silk-workers in Athens, Corinth and Thebes to Palermo, and for a time was able to injure Venetian trade. But in 1209, although engaged in war with Genoa, the Venetians enticed some of those workers, as well as others in Greece, to come to Venice, and once more assumed pre-eminence in the silk trade. Another trade which Venice secured was that of glass; the mirrors became famous.

Wealth, however, was supposed to be likely to bring danger to the State. There arose an aristocratic party and a noble party, the former having the monopoly of government. The fear of the nobles led to the establishment of inquisitors, of whose doings we have had a sketch in "Angelo," the revived drama by Victor Hugo. There was a fear that if they had sufficient money the nobles might become more dangerous. It was therefore decreed that a noble should not interfere with commerce in any way. Immoral means were also adopted in order to render the nobles poor.

The competition of other countries was insufficient to deprive Venice of its most profitable trade. No rival was able to bring so much ruin to Venice as the discovery of the Cape of Good Hope by the Portuguese. Venice, and indeed all Italy, ceased to be the centre of the commercial world, for the ocean highway was open to those who had the courage to venture on it.

Venice was so closely associated with aids to luxury we can understand how people imagined the city itself was luxurious, and in consequence a visit to it became an essential element of the grand tour. The citizens were shrewd enough to realise that hospitality could also become an aid to commerce, and in consequence many palaces became little more than warehouses where antiques, many of them being fabrications, were parted with in a friendly way on very liberal terms. A customs-house at the entrance to the canal was therefore an eloquent reminder to the stranger of the character of the city in which he was about to dwell.

ST. MARK'S, VENICE.

Anyone visiting Venice at the present time and seeing church after church invested with scaffolding might be tempted, says a correspondent of the *Morning Post*, to form very pessimistic views about the stability of the City of the Lagoons. Special alarm has been expressed as to the condition of St. Mark's, and I have therefore thought it desirable to go over that fabric with an architect of recognised eminence and to have his opinion as to the condition of the noble church.

The whole of the west end of the building is now occupied by scaffolding of the most massive description, which goes up to within nearly 6 feet of the roof and has been erected at a cost of nearly 1,500*l.* The cracks in the mosaic are very noticeable when one ascends by a series of ladders to the highest platform of this scaffolding, and it is calculated that eighteen months must elapse before that portion of the church has been put into a proper state of repair. The work is naturally of a very delicate character and the men employed must be skilled and well paid. Fortunately, like the workmen engaged in the excavation of the Roman Forum, they are keenly interested in their work, and, being Venetians, are proud of Venice and her magnificent past.

The rise of certain parts of the floor, which led to a person breaking his leg over a projecting fragment of the paving some months ago, has necessitated relaying in a few places. This has, however, been done with the utmost care; it led to the discovery of a tomb belonging to a very early period and of traces of old foundations. To level the floor would be an impossibility architecturally, besides being an act of vandalism unworthy of a Venetian.

It is not considered that the present cracks in St. Mark's are due to the effects of the fall of the campanile. There have been in operation for centuries certain causes which have slowly but surely weakened the structure. As short a distance as 5 feet below the floor there is water, which has had a bad influence on the foundations in the course of ages. Worse still, the salt air of Venice, especially during the winter, when cold mists are prevalent, has a destructive effect on all ironwork. The Venetian Republic would not, it is true, allow any iron bars to be placed as supports in a visible position in St. Mark's; but along the galleries are numbers of iron fastenings, put there by Sansovino when he executed repairs at the church. A further cause of the cracks is the vast weight of the materials superadded to the original structure when the church was richly decorated and altered without any increase in the strength of the foundations.

The question of expense is not serious. During the Austrian occupation St. Mark's enjoyed an annual donation of 2,400*l.*, and this liability was taken over by the Italian Government in 1866 and continued since then. As the work of repairs must of necessity proceed slowly, and long preliminary studies were required, so far the cost has been relatively small. Unforeseen cracks may, of course, render the task of repairing the building more arduous, for Venetian edifices are full of surprises. My informant does not, however, share the view expressed in some quarters that St. Mark's is doomed. The present plan of repairs will, he thinks, save it.

Extensive works are also going on at the church of San Giovanni e Paolo; the side of the Doge's Palace adjoining the Bridge of Sighs is shored up by means of huge planks and beams; the campanili of both Sta Maria Formosa and San Giorgio Maggiore are enveloped in scaffolding; and that of Burano is still rent and unrepaired. In short, Venice is in the hands of the workmen, and some years must elapse before she emerges from her crutches and splints.

THE DUGDALE TERCENTENARY.

On September 12, 1605, a son was born to John Dugdale, a gentleman and scholar, of Lancashire family, who had settled in the remote and picturesque village of Shustoke, near Coleshill, Warwickshire. And it was observed as an omen of good fortune to the child that on the same day a swarm of bees settled in the garden surrounding his father's house.

Strangely enough, says the *Birmingham Daily Post*, the village prophecy was verified, for the boy lived to become Sir William Dugdale, Knight, Garter King of Arms, soldier, historian, antiquarian and scholar, whose fame to-day is greater than ever before, and whose long life was one of triumphant achievement in face of innumerable difficulties. If Carlyle's dictum that "Genius is an infinite capacity for taking pains" be true, then Sir William Dugdale was one of the world's greatest geniuses. If, as the popular proverb has it, "Patience is man's chief virtue," then he was one of the world's most virtuous men. And it is to his genius and patience that we owe that model of county histories, his "Warwickshire," and that remarkable compilation of ecclesiastical records, his "Monasticon Anglicanum," which are his chief works, and to which the historians of succeeding generations have been so largely indebted.

Receiving his earliest teaching at the hands of Thomas Sibley, curate of Nether Whitacre, Dugdale became, at the age of ten, a pupil at Coventry Free School, where he remained for five years. Returning home, he commenced a course of legal studies, his father designing him for a lawyer. But the love of history and antiquities already possessed him, and was fostered by his acquaintance with Sir Symon Archer, the Warwickshire antiquarian, whom he met at his father's house, and whom he assisted in various researches. And thus early he found his "natural bent."

He was but a boy, not yet nineteen, when, at the urgent request of his father, who was getting old and infirm, he married a Staffordshire lady, living, until the death of his father in 1624, with his wife's parents. In that year he removed to Fillongley, where his father had bought him a small estate, and in 1625, the manor of Blythe coming into the market, he purchased it and built the hall there for his own occupation. In the meantime he continued busily engaged with his researches, having through the good offices of Sir Christopher (afterwards Lord) Hatton been given access to the Tower records, and assiduously hunting up all the private papers of which he could hear, Hatton also helping him financially to a considerable extent. In 1639 he obtained his first appointment in Heralds' College—a post after his own heart, though carrying no higher stipend than 20*l.* per annum.

Then came the "Greate Rebellion," and the romantic episodes of his otherwise uneventful life. As Herald he was summoned to the king's standard at York in 1642; was sent to summon the Parliamentarians at Coventry, Warwick Castle and Banbury Castle to surrender to the king—a summons which Banbury alone complied with; was present at the first "battle" at Curdworth Fields, where the Royalists were commanded by Sir Richard Willys; and saw the fight at Edge Hill. From October 1642 to June 1646 he was shut up in Oxford with the Royalist garrison, occupying himself with the various records in the College libraries, and in the latter month, Oxford having been taken by the Roundheads, he went to London and compounded for his estates, paying a fine of 168*l.*

In 1655, after being refused by the London booksellers, he published the first two volumes of the "Monasticon," and in the following year his "History of Warwickshire" came from the press. He was now back again at Blythe Hall, from which he rode, on May 10, 1660, to Coleshill, where, in his capacity as Rouge Croix pursuivant, he publicly proclaimed Charles II. as king. In the following month he was appointed "Norroy King," and visited his "province" in 1665-6, dealing sternly with unauthorised arm-bearers. He was made Garter King and knighted in 1677, the office securing him a salary of 100*l.* per annum and a residence at Windsor. In the meantime work after work had been given to the world as the result of his ndustry, amongst them being a "History of St. Paul's," a "Baronage of England," a "History of the Rebellion," and a work on "Drainage and Land Reclamation;" whilst his "Monasticon" was republished in 1682.

We get a glimpse of Sir William in the famous diary of Evelyn, who, writing on May 21, 1685, records that he met he aged knight at the Earl of Clarendon's table, and notes hat though he was then in his eighty-first year, he "had his sight and memory perfect." The end came within a year of that time, Sir William dying "in his chair" at Blythe Hall of a fever contracted by "tarrying too long in he meadows near his house"—a death truly as remarkable s the life it closed. Sir William was buried in his parish church at Shustoke, and it is remarkable that when, as a esult of lightning, the ancient church was destroyed, his omb was the only memorial it contained that escaped njury.

Anthony à Wood, antiquary, born at Oxford December 17, 632, died November 28, 1695, lighted by chance on Dugdale's "Antiquities of Warwickshire," and found in it he inspiration he most needed and the work of his life. On Dugdale's "Warwickshire" was modelled Anthony à Wood's famous "History and Antiquities of the University f Oxford," and it is interesting to note Wood's appreciaon of Dugdale. "What Dugdale hath done," he said, "is rodigious. His memory ought to be venerated and held in verlasting remembrance."

SHERBURN HOUSE, KELLOE AND SEDGEFIELD.

THE Architectural and Archæological Society of Durham and Northumberland, on the occasion of their fourth meeting of the present year, says the *Durham Chronicle*, made a tour embracing Sherburn Hospital and the churches f Kelloe, Bishop Middleham and Sedgefield. The party rove first by way of the Shincliffe Peth to Sherburn Hospital, where they were received and entertained by the master (the Rev. H. A. Mitton, M.A.), who conducted them ound the group of buildings which form the old instituon. Sherburn Hospital, the master explained, was unded in 1181 by Hugh Pudsey, "the jolly Bishop of urham," and was originally provided for lepers, both men nd women. Now there is a well-arranged infirmary, a uilding in which are comfortably housed and provided for number of poor people, and a dispensary as well as a hapel, which was the chief object of interest. The bulk of e tower is ancient—probably about 1200—and some of e old work at the back and western side dates from the irteenth century. Some sedilia (Decorated) of 1340 were so seen. The most noteworthy feature of the Hospital, however, was the gatehouse, which retains its original vaulted arch resting on chamfered ribs.

From Sherburn the journey was resumed to Kelloe, where under the guidance of the vicar (the Rev. Canon Burnett), who had the able assistance of Mr. C. E. Hodges, the visitors learned much that was of interest regarding the parish church. A tower and south door of the Early Norman period, an Early English chancel and a tablet commemorating the birth in the parish of Elizabeth Barrett Browning—"a great poetess, a noble woman and a devoted wife"—these were some of the features which arrested attention. But the main item was a beautifully carved Norman cross. Discovered in pieces and in use as walling material, the cross now forms a splendid ornament in the chancel. On the transverse arms is the inscription, "In Hoc Vinces," and one of the subjects of the carving is that of an angel revealing to St. Helen, in a dream, where Christ can be found. In a paper on the subject, Canon Burnett mentioned that Sherburn Hospital derives considerable income from the parish—not only from the rectory, but from the colliery, there being a charge on every ton of coal raised. About 1,600*l.* a year is drawn from Kelloe, but, in the words of the Canon, "the governors of the Hospital are liberal people. They have made an allowance to the Vicar of Kelloe and several other vicars of the ancient parish. Concerning former vicars of the parish he had several amusing anecdotes to relate. The will of one of them, who was said to have become the last Prior of Finchale Abbey, proved him to have been rich in plate and furniture, but his books were only worth 5*s.* And of him, when he took unto himself a wife, it was sung—

> The Prior of Finchale has got a fair wife,
> And other old mugs will soon take the like.

Another vicar, possessed of many rings, which he divided by will among various relatives, left as a legacy to his son-in-law a book entitled "The Restitution of Decayed Intelligence." The church, said Canon Burnett, in conclusion, was nearly 400 years old, and he hoped it would remain standing for many more hundreds of years.

Tea was partaken of at the Vicarage, and cordial thanks were expressed to the Vicar, who has reached a great age, before a move was made to Bishop Middleham.

Prominent in the church there is a monument to Robert Surtees, of Mainsforth, who, as Mr. Hodges said in an eloquent tribute, "wrote the finest county history that has been produced." It was a somewhat melancholy discovery to find the historian's tomb in a very neglected condition. It is overgrown with nettles, the enclosing rails are badly rusted, and the inscription on the cover has become almost obliterated. In his remarks on the edifice, Mr. Hodges described it as a typical example of a north-country Early English church. Referring to the length of the chancel, he said that churches were built then for professional and not congregational worship. The font he thought to be one of those made in Bishop Pudsey's time. Something like a dozen of these fonts seemed to have emanated from the same workshop. They were on the same design, and had the peculiar solid mould of the Transitional period. The finest of the lot was at Billingham. The font was the oldest stone in the church. Drawing attention to a number of early grave-covers, he mentioned that on one of them were to be seen the Lombardic letters used in the twelfth and up to the end of the fifteenth century, when we went back to the Roman letters.

The vicar (the Rev. M. B. Parker) entertained the company, after which the drive was continued to Sedgefield, where the church of St. Edmund the Bishop, which ranks amongst the finest ecclesiastical edifices in the county, was inspected. Here Mr. Hodges (who read a lengthy paper) and the rector (the Rev. Dr. Price) were the guides, and particular attention was drawn to the fact that the church is the only one in the country dedicated to St. Edmund the Bishop. The Rector expressed the belief that the church was originally dedicated to St. Mary, but Edmund became such a hero that the people of Sedgefield altered the dedication. As proof he pointed out that St. Edmund's canonisation took place about the same time as the building of the church, which belongs to the early thirteenth century. Another interesting fact in connection with it is that the curfew is still rung every night.

Mr. Guido-Bach, who at one time was a popular watercolour artist, died on Sunday last in his seventy-seventh year.

NOTES AND COMMENTS.

There is no Department of Public Works in England; there is an Office of Works, but its duties are restricted. There is also an office for granting loans for public works. One reason no doubt is that the ordinary administrator or official is generally incompetent to deal with material subjects. The works which have to be executed are divided and come under the control of different departments. Having had experience at home we can understand why Lord Curzon should not see the advantage of having a Public Works Department in India. In last March his Lordship created a Department of Commerce and Industry. A great part of the business of the Public Works Department was transferred to it. Another part was handed over to the Railway Board, and yet another was entrusted to the Revenue Member of the Council. The Public Works Department therefore ceased to exist. To ordinary people there appeared to be an advantage in such a shuffling of duties. It was not long before it was recognised that a blunder had been committed. On August 9 it was decreed "that the designation of the Public Works Department shall be restored." The Secretary to the Government of India in the Department of Revenue and Agriculture (Civil Works) will accordingly be styled "Secretary to the Government of India in the Public Works Department," and the word "(Revenue)" will in future be omitted from the designation of the Department of Revenue and Agriculture (Revenue). After such a wonderful feat of doing and undoing who can say a word against the administration of Indian affairs?

Architects and other artists are now indignant at the proposal to destroy no less than about eight thousand trees in the Bois de Boulogne. It cannot be said that the citizens in general give them much support. The trees are doomed because they interfere with the plans for buildings which have been outlined. The removal of the line of fortifications adjoining the Bois has given rise to schemes for a new suburb, and for its realisation ground as well as trees must be sacrificed. M. Frantz Jourdain, the architect, who is always foremost in resisting attempts which will affect the amenity of Paris, complains of the dolorous indifference of the people of the city on the subject. He believes that an agitation should be instigated by which the members of the Municipal Council would be made to feel that what is proposed would be an irreparable injury to Paris. Unfortunately public spirit seems to have departed from the population, and even greater wrongs would be allowed from the want of public resistance. In such a case it seems strange that the Government are powerless.

It is rare to find so much information concerning perspective within a very limited space as Mr. R. F. Sherar has brought together in his "Perspective Tables" (Edinburgh: A. W. Sinclair). The tables reveal how radial lines on plan, vanishing points and receding lines can be arrived at by simple arithmetical operations. But there is nothing empiric about the tables, for the reader is made to realise that they are results of the principles which govern perspective. Applications are shown by photographs as well as by drawings. There is no painter who is more exact in dealing with difficult perspective problems than Sir L. Alma-Tadema. The frontispiece, which is a sketch of *The Kiss*, is an example. The artist kindly informed Mr. Sherar about the process he employs. "As for my method of working, I must confess that I do not always work my pictures out in the same way. The picture called *An Oleander* was worked out to scale, with plans for every part of the picture truly measured. Of course that takes much time, and after many works have been thoroughly measured, the eye gets so accustomed to measure that the dividers are often left unused, and so one begins to trust to free-hand drawing, sometimes with good results." A very clear description is given of the "centrolinead," an appliance which is not as much utilised as it deserves. The little book will have its use not only for draughtsmen but for photographers.

ILLUSTRATIONS.

CATHEDRAL SERIES.—WAKEFIELD: ONE OF TWO CARVED WOOD SCREENS, WITH DOORS TO THE NEW ST. MARK'S CHAPEL.

THE BILLIARD-ROOM AND STABLES AT LYNDHURST, STREATHAM PARK.

BAPTIST CHURCH, HALF MOON LANE, HERNE HILL, S.E.

This building, now in course of completion, is situated at the corner of Half Moon Lane and Winterbrook Road, at the foot of Herne Hill (upon which for some time John Ruskin resided). The building is 73 feet long and 44 feet wide internally, with an additional recessed space in front over which will be placed a gallery in connection with other galleries along each side of the building, which are reached by staircases flanking the central front entrance. The choir and organ gallery is situated at the rear of the building, adjoining the church hall, beneath which are arranged the various retiring rooms, corridor, marble baptistery, &c., the platform and rostrum projecting in front of the gallery space. Seating accommodation is provided for 400 on ground floor and 300 in galleries. Four class-rooms, with an area of over 800 feet, have been provided by the side of main building facing Winterbrook Road, with separate lobby entrances. The walls are of Kentish stock bricks, with facings of red Rochford bricks relieved with dressings of cream-tinted impervious stone, and the roofs are covered with light green Welsh slates. The triplet window openings at side are of plain character, but the large front gable end window is richly traceried, and all are fitted with iron sashes and glazed with tinted glass in lead quarries. The building is covered with a large open-timber roof in one span, with pitch-pine hammer-beam principals springing from the massive stone corbels on either side. The soffite of this roof is panelled and plastered and decorated, and the walls are treated in a similar way. The floor, which has a slight fall from front to rear, is of pitch-pine wood block throughout, the lobby entrances being of mosaic. The principal external feature of the building is an octagonal tower placed at the corner, with range of belfry windows rising above the roof, and an open parapet surmounted by a lead-covered timber-framed cupola and weather vane. The building has been designed in the Lombardian or Northern Italian style of architecture, to harmonise with the church hall erected a few years ago and to which it will be attached. This building also corresponds in its style with the work of the New College, Dulwich, which is really a combination of the Classic and Gothic as applied by the Venetians.

Considerable difficulty was encountered in laying the foundations. The river Effra crossed the site on its way from the Norwood Hills by Dulwich Meadows to Brixton and the Thames, and it was necessary to carry them down below its natural bed. The work in connection with the foundations was entrusted to Mr. J. Downs, of Walworth, but the contract for the building was secured by Mr. Henry Young, of Junction Works, Herne Hill, S.E.

The engineering work and heating has been executed by Messrs. Bradley, the electric-light installation has been carried out by Messrs. Durell, the sun-burners and ventilation by Messrs. Wenham & Waters. The bell has been cast by Messrs. Mears & Stainbank.

Mr. Birch has acted as general foreman for Mr. Young, who has carried out the work under the superintendence of the architect, Mr. J. William Stevens, F.S.I., A.R.I.B.A., of 21 New Bridge Street, City, E.C.

RESIDENCE, PURLEY.

VESTRY HALL, BRENTFORD.

VERULAM AND ST. ALBANS.

HE seventh summer ramble of the Upper Norwood
Athenæum took place on Saturday, August 19,
whole day being devoted to an examination of the
uities of St. Albans, under the guidance of the chair-
, Mr. Frank E. Spiers. In the morning the cathedral
visited, and after luncheon the leader conducted the
y through the Abbey Gateway to the Abbey Mill, and
there traced the remains of the ancient city of
lamium, proceeding by the side of the river Ver to
ichael's Church, where the vicar, the Rev. Charles V.
nell, recounted the history of the church. He explained
ature of the Roman foundations which had been dis-
red near the church, and accompanied the party to the
am Block and thence to the Vineyard Block, permission
isit which had been kindly given by the Earl of
lam. In an adjoining field a small piece of Roman
lated pavement, which had been unearthed by the
er two days before, was inspected with great interest,
the tour continued round the walls of the city, visiting
tephen's Church on the way, and passing through
lam woods back by the Fighting Cocks Inn and the
y Mill.

ea was taken at the George Hotel, after which Mr.
k E. Spiers read the following paper upon the ancient
of Verulamium, St. Albans Cathedral and Abbey
ch, and the churches of St. Michael and St. Stephen.

Verulam.

here is probably no place in the immediate neighbour-
of London that has a more ancient history than
lam, or one so full of interest. Tacitus, Cæsar, Virgil
e of it, not to mention Bede, Mathew Paris, Camden,
many of the early historians. It existed before London,
in the time of the Britons was the *oppidum*, or strong-
, of the tribe of the Cassii, or Catyeuchlauni. It was
ted on the river Ver, from which it took its British
of Verlam, or Verlamium, and consisted of a col-
n of rude dwellings, protected on three sides by a
and embankment surmounted by stockades, and on the
h by a large mere or lake, formed by the construction
causeway across the river, forming a dam at its lower
The greater part of this causeway still remains, and
der probably than Stonehenge. Outside the capital
rich pastures for the cattle, and beyond, dense forests
gh which were made roads or tracks in various
tions, the principal one being that known as Watling
t.

n the second landing of Julius Cæsar in Britain, 54 B.C.,
ught his way to the Thames, where, having crossed
river at Cowey Stakes, near Walton, his way was
sed by Cassivelaunus, chief of the Cassii. He suc-
d in driving back the British forces until he reached
m, where he met with a most determined resistance,
ultimately, by strategy, forced his way into the strong-
Cassivelaunus escaped, but soon made terms with
oman general, consenting to pay a yearly tribute.
rding to Tacitus, the Britons declared their willingness
ey their conquerors but not to become slaves. After a
aign of two months the Romans, for a second time,
he Britons in possession of the country. Tenuantius
eded Cassivelaunus; he was followed by Tasciovanus,
held power for thirty-five years, Verlamium remaining
apital. He died in A.D. 5, and was succeeded by his
unobelin (the Cymbeline of Shakespeare), who, having
ved his education in Rome, where he was in great
r with Augustus Cæsar, did much to introduce the
sed customs of the Romans among his people. Upon
eath his territories were divided between his two sons,
dumus and the celebrated and heroic Caractacus.

gain the Romans came to Britain, and this time to
In A.D. 43 the Emperor Claudius sent Aulus Plautius
vast legions to conquer the island. They met with
little opposition, and after defeating Togodumus and
tacus occupied Verlamium. They made it their capital
ortified it with a massive wall, completely surrounding
ity, of which many interesting remains still testify to
xcellence of the Roman masonry. It was 12 feet thick,
20 feet high, and was constructed of layers of flint
ravel set in concrete 3 feet deep, alternated with bond-
urses of Roman tiles measuring about 16 inches by
hes by 1½ inches, built in with mortar, the whole being
sely hard and solid. On three sides of the city a deep
was formed—at the south angle being a double fosse—
n the remaining side the British lake laved its walls. Two main roads crossed the city, viz. Watling Street from north-west to south-east, and the Camlet-way from north-east to south-west, intersecting at a spot near the present St. Michael's Church. The foundations of the four main gateways have been traced, showing them to have been structures of great strength. A fifth gateway was at the south angle by the double fosse. Of the protecting towers nothing remains. It is a notable fact that Verulamium was the first city built by the Romans in Britain. The people had great prosperity under their Roman governors, and many fine villas and public buildings had already been erected when, in A.D. 61, Boadicea, queen of the Iceni, in bitter revenge for the wrongs she and her people had received at the hands of the Romans, raised a vast army of Britons and—taking advantage of the absence of the Roman general, Suetonius Paulinus, in Wales, where he had just captured Anglesea, the sacred isle of the Druids—waged war against the Romans, and successfully attacked first Camulodunum (Colchester) and then in turn Londinium and Verulamium, putting to death every Roman, man, woman and child, and burning the cities to the ground. Suetonius hastened back, meeting Boadicea at Ambresbury Banks, and with his well disciplined legions attacked the British forces and defeated them with terrible loss. Boadicea, "triumphing over death," poisoned herself rather than fall alive into the hands of her enemies. Thus ended this memorable insurrection, and the Britons once again fell under "the yoke of the conquerors of the world."

REMAINS OF ROMAN WALL, VERULAM (ST. GERMAIN'S BLOCK).

Verulamium was soon rebuilt by the Romans, and with greater splendour than before. Mr. Ashdown points out that, whether by coincidence or otherwise, Verulamium had in many ways a remarkable resemblance to Pompeii. The following are the respective measurements:—Verulamium: length, 4,300 feet; width, 2,460 feet; area, 167 acres. Pompeii: length, 4,488 feet; width, 2,541 feet; area, 190 acres.

The streets were from 24 feet to 27 feet wide, paved with a gravel concrete, having in some places an upper facing of stone slabs. For nearly four hundred years Verulamium remained the Roman capital of this portion of the country known as *Flavia Cæsariensis*, and, under the Emperor Nero, was granted the dignity of a *municipium*, or free city, York being the only city in Britain similarly privileged. All born within its walls could claim the rights of Roman citizenship and of being free men. The supposed sites of the forum, basilica, theatre, baths, and some of the temples have already been traced, as well as villas and shops of various kinds. Camden, writing in the sixteenth century, says:—"Nothing now remains of Verulamium besides the ruins of its walls, chequered pavements and Roman coins, which they now and then dig up. Were I to relate what common report affirms of the many Roman coins, statues of gold and silver, marble pillars and cornices, and wonderful monuments of ancient art dug up there, I should scarcely be believed."

Christianity was in due course introduced into this country and soon spread among the Romanised Britons, when the Emperor Diocletian, in A.D. 303, issued his edicts against the Christians, which were carried out in Britain by Maximianus Herculius with great severity. The first effect was felt at Verulamium, where Albanus, or Alban, an eminent citizen, having sheltered and been converted to the faith by a Christian preacher named Amphibalus, was condemned to death upon the hill overlooking the Ver, afterwards named by the Saxons Holmhurst, and later Derswold. Many miracles are connected with the occasion of his martyrdom. On his way to execution the concourse of people was so large that all could not cross the bridge over the Ver; upon the prayer of Albanus the water was dried up and the people passed over on dry ground. This converted the soldier appointed as executioner, who threw down his sword and falling at Alban's feet desired that he might die with him. While another was being obtained Albanus preached to the people the new faith, and, having arrived at the summit of the hill, prayed for water to quench his thirst, when a fountain burst forth at his feet. June 22, A.D. 303, is generally accepted as the date of the martyrdom. His body was buried on the spot where he died and, according to Bede, a church was built over it in A.D. 313. Amphibalus was subsequently taken prisoner in Wales, and being brought to Verulamium to be executed, his captors, fearing his escape, martyred him about four miles from the city at the village of Redbourne, where a church was afterwards dedicated to his memory. Constantine, the first Christian emperor, born at York of a British mother, succeeded Diocletian in A.D. 305, and at once put an end to the persecution.

At the beginning of the fifth century the Romans commenced withdrawing their legionaries from this country to protect the heart of the Roman empire, which was in danger, and so, after an occupation of 367 years, during which they had done so much for the civilisation and prosperity of the country, they left the Britons to once again govern themselves. This they were little able to do after so many years dependence upon their Roman masters. After the departure of the Romans the city was known by the British name of Verulam.

The Saxons conquered the city in A.D. 465, changing the name to Watlingceaster, or Werlamceaster, but they only held it for thirty years, when it was retaken by the Britons, under Uther Pendragon. In A.D. 516 the Angles, who had already exterminated the Britons in East Anglia, swept down upon Verulam, drove out the inhabitants, and in their lust for plunder completely destroyed the city. The ruins remained neglected and untouched for nearly 300 years, and in time became almost concealed by the overgrowth of rank vegetation, the jackal and wolf holding undisturbed sway in its deserted streets. Ultimately the long silent ruins were upturned for the sake of the valuable stores of building material—stone, flint, tiles, &c.—that lay there buried. Offa used them for the building of his monastery on Holmhurst Hill; Ulsinus, the sixth abbot, for his three churches, St. Peter's, St. Michael's and St. Stephen's; Ealdred, the eighth abbot, and his successor, Eadmer, for the rebuilding of the abbey church. This abbot, finding that Verulam had become the haunt of outcasts who preyed upon their fellow-men, filled up all the vaults and subterranean passages and levelled the site. Numerous objects of great value were brought to light by the removal of the materials, much of which perished, but among them were exquisite carved cameos and rare gems of the greatest beauty that were preserved for decorating the shrine of St. Alban. There were also found a number of books which were all committed to the flames, as they treated of Pagan worship, excepting, however, one which proved a great treasure, containing the history of the "Life and Martyrdom of St. Alban," written in the language of the ancient Britons. Eadmer had it translated, and, according to Newcome, immediately the translation was completed the original crumbled to dust. The mere, or fish pool, already referred to, was purchased from King Edgar by Alfric, the seventh abbot, who cut a passage through the early British causeway and drained off the water, leaving only the river in its narrow course. The walls of the old city have chiefly gone for metalling the roads.

Now the farmer reigns supreme over the ground, but it is to be hoped that the time is not very far distant when a systematic exploration of the whole area will be made, which should prove of the greatest value to the antiquary and the historian.

To-day we have had the exceptional good fortune to see a portion of tesselated pavement that was brought to light in ploughing operations two days ago, and that Mr. Edwards, who farms the land, has been good enough to keep bare for the purpose of our inspection to-day, through the kind influence of the Rev. Chas. V. Bicknell, vicar of St. Michael's.

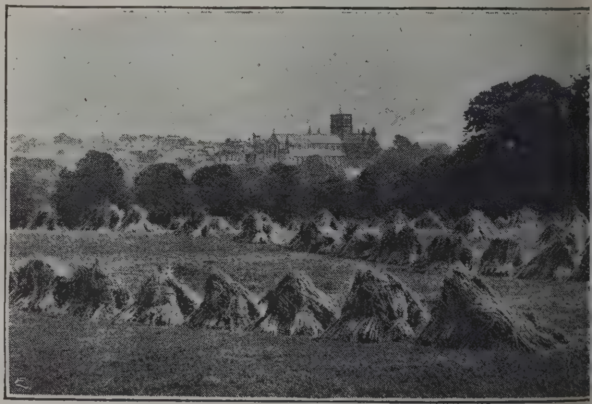
St. Albans Cathedral and Abbey Church.

The history of St. Albans Abbey Church commer with the small church built by the Christians of Verulami on Holmhurst Hill in A.D. 313—after Constantine had an end to the persecutions of the Christians in Britain- honour and to the glory of Albanus, our proto-martyr, o the spot where he died and had been buried ten ye before.

In 429 Germanus, Bishop of Auxerre, came over to country for the purpose of confuting the Pelagian heres His mission proved successful, and before returning ho he exhumed the remains of St. Alban and deposited in coffin with them many holy relics, and received a reli the martyr as a memorial. A chapel was built in Verul in honour of Germanus, on the spot where the Christ Synod had been held.

King Offa II.—reputed fifteenth in descent from Scandinavian god Odin—who reigned over Mercia fr 755 to 795, in repentance for having so cruelly murde Ethelred, king of the East Anglians, resolved by some pi act to re-establish his character in the world. This g resolution was assisted by Divine aid. An angel appear to him told him to seek the body of the martyr Alban a deposit it in a suitable shrine. During the devastations the Saxons the sacred remains had been removed from little church on the hill and hidden away under the s elsewhere for greater safety. In the course of time locality had been forgotten. The king was guided in search by a miraculous light that led him on until he ca to the place where the bones lay. The coffin was open and found to contain Alban's remains, with the relics the Apostles that had been deposited therein by German The king placed round the skull a golden band inscrib "Hoc est caput Sti. Albani," and having enclosed t sacred remains and relics in a feretory adorned with go silver and precious stones, conveyed them in solemn p cession to the dilapidated church on Holmhurst, which restored and had richly decorated.

Offa subsequently made a pilgrimage to Rome, obtain the consent of Pope Adrian to the building and endowme of a monastery in connection with the church, the canonis tion of the martyr and many other privileges for t establishment, among them that the Romescot, or Pete Pence, collected throughout his dominion should be appr priated to the abbey of St. Alban. The foundation of t abbey dates from 793. The Charter of Donation was offer by the king upon the high altar of the church in 795, short after which he retired to his palace at Offley and the died. He endowed the monastery with the royal manor Winslow and other valuable lands, and established it und the order of St. Benedict for 100 monks. Willigod, a rel tion of the king, was the first abbot.



St. Albans from Verulamium.

Ealdred, eighth abbot, and Eadmer, his successor, rebu the church, using—as already recorded—the materia obtained from the ruins of the old Roman city of Ver lamium.

Paul de Caen, fourteenth abbot (1077-97), appointed William the Conqueror, entirely rebuilt the church, an from the large amount of his work that still remains, o is able to appreciate the grandeur of his conception. T church was completed in 1088, but it is said not to ha been dedicated until 1115—perhaps this may have been second dedication. It consisted of a nave with aisle transept, choir and sanctuary with aisles, two apsid chapels projecting from either arm of the transepts, and ral tower above the crossing. It was built entirely of an bricks and stones, the size of the former being ches by 12 inches by $1\frac{1}{2}$ inches—though some have found 21 inches by 12 inches by $2\frac{1}{2}$ inches—with wide s, the mortar between the courses being nearly as as the bricks, the face being covered with plaster.

eoffrey de Gorham, sixteenth abbot (1119-46), obtained Henry I. "The Liberty of St. Albans, conferring the power of holding pleas and taking cognisance of all r crimes and offences which had been punishable in eets, the hundreds and the county court."

uring the abbacy of Robert de Gorham (1151-67), olas Brakspeare, of Abbots Langley, near St. Albans, admitted a monk of this monastery. He was elevated e chair of St. Peter in 1155 as Adrian IV., being the Englishman who ever obtained that high dignity. He rmed all the privileges of the monastery and granted not allowed to any other abbey in the kingdom. This t assumed the mitre for himself and his successors. vas the builder of the chapter-house and cloisters.

enry II. appointed Symeon nineteenth abbot (1167-83), during his time the relics of St. Amphibalus were discred and brought to the abbey.

was not until John de Cella became abbot (1195-1214) any alterations took place inside the church. He ed to rebuild it in the Gothic style of architecture. began by pulling down the Norman west end and reng it with a design of great delicacy. He planned and nenced the erection of two grand western towers; these unfortunately never completed, but the Early English at the west end of the south aisle, which was intended ad into the tower on that side, shows the beauty of his gn. Some of his work is still to be seen in the three doorways, especially the northernmost one. Upon eath, William de Trumpington carried on his work, with less beauty and elaboration of detail, the Early ish arches and piers on either side of the nave and the lows in the aisles being his. He also raised an octagon rn above the tower.

he Norman choir being unsuited to the ceremonial irements of the Church at this period it became neces- to alter and enlarge it. This was commenced by John ertford, twenty-third abbot (1235-60), and continued by successors, Roger de Norton (1260-91) and John of hampstead (1291-1302), who built the Saint's chapel commenced the retro-choir and lady chapel, which finally completed by Hugh de Eversden (1308-26). une, 1292, the body of Eleanor, queen of Edward I., d in St. Albans Abbey before the high altar on its way estminster. On St. Paulinus's Day, October 10, 1323, mass at the high altar had been celebrated, two of the an piers of the main arcade on the south side fell out- s on to the cloisters with a great crash, the roof shortly falling in and making a complete wreck of this part e church. Abbot Hugh commenced the repairs which carried on and completed by Richard de Wallingford -35) and Michael de Mentmore (1335-45).

homas de la Mare, thirtieth abbot (1349-96), built the screen in the nave known as St. Cuthbert's Screen, and the present great gate of the monastery, with its bers and dungeons. A brass to his memory, of ish workmanship—one of the finest brasses in England preserved in Abbot Wheathampstead's chantry tomb.

hn of Wheathampstead, thirty-third abbot (1420-40 451-64), on account of the impoverished state of the s of the abbey, admitted gentlemen and ladies of rank he fraternity. Humphrey, Duke of Gloucester, and ife Jaqueline, Duchess of Holland and Heynault, were tted in 1423, and Eleanor, his second wife, in 1431. Humphrey died February 28, 1447, and was buried e abbey. His handsome chantry tomb was probably p by John of Wheathampstead. William of Walling- thirty-fifth abbot (1476-84), erected the beautiful screen the high altar which had been designed by Wheat- stead.

homas Wolsey, thirty-eighth abbot (1521-30), Cardinal Archbishop of York, held the abbey *in commendam.* e is no record that he ever took possession. Upon his obert Catton was elected abbot, but he was deprived s office in 1538 in favour of Richard Boreman de nache, fortieth and last abbot, who was placed there rve the purposes of Henry VIII., to whom he sur- red the abbey on December 5, 1539. The king granted onastic buildings to Sir Richard Lee, who pulled them and with the materials rebuilt Sopwell Nunnery, had also been given him by the king as a private residence for himself. The town obtained a charter in 1553 from Edward VI., by which they secured the abbey church as their parish church for the sum of 400*l.*, and under the same charter they converted the lady chapel and retro-choir into the Grammar school, making a public passage through the retro-choir, which remained open until 1874. For the repairs of the church letters patent were issued by authority of the Crown in 1612, and again in 1681, ordering collections to be made in all the churches in England for the repair of the abbey church of St. Albans. William and Mary also made a grant in 1689, and so from time to time money has been found to keep the church in fair repair.

In 1856 steps were taken to carry out a thorough restoration of the fabric, and at the same time to raise St. Albans to a bishop's see. For the former purpose Sir George Gilbert Scott was called in, and in his hands much excellent work was carried out. Later Sir Edmund Beckett, afterwards Lord Grimthorpe, obtained a faculty to restore the building, which he did to his heart's content, but not altogether, I fear, to the content of his fellow men or posterity.

An Act of Parliament was passed in 1877 dividing the populous diocese of Rochester with St. Albans. The Right Rev. Dr. Claughton, then Bishop of Rochester, elected to take the northern division and became first Bishop of St. Albans. The church now serves the dual purpose of the cathedral of the diocese and the parish church, the dean being also the rector.

St. Michael's Church.

St. Michael's Church possesses very special interests of its own. It is built within the walls of the Roman city, its position being at the intersection of the two main roads that crossed Verulamium. Sir George Gilbert Scott, who restored the building in 1867, conjectured that it stands on the site of the Roman basilica, altered in the time of Constantine into a place of Christian worship. Moreover, coming to more modern times, it is the shrine of Lord Chancellor Bacon, Baron Verulam and Viscount St. Albans. The church as we know it, whatever may have been standing here before, was built by Abbot Ulsinus in 948-50, and the greater part of the walls are those of the Saxon building. It is built of Roman bricks and flint, the walls being about 3 feet 10 inches thick. The Saxon church comprised the nave, chancel and a low western tower the width of the nave. In 1190 north and south aisles were constructed, the arches opening into the aisles being plainly cut out of the solid wall, the Saxon narrow round-headed windows closed and a clerestory added. The heads of some of these, showing their construction of Roman brick, are now exposed. The north aisle has a deep recessed Transition window at the east end, and there is a small Decorated window of Flamboyant character in the north wall. The two eastern arches on the south side open into a chantry chapel of which the upper part is half timber with louvre boards on the west side. In the east wall are two tall round-headed Transition Norman windows with a circular window between them. There is a piscina in the south wall, and the entrance to the rood-loft is visible in the north-east corner of the chapel.

ST. MICHAEL'S CHURCH, ST. ALBANS.

In the third arch on the south side, which is partly filled up, is the south entrance of the church. It has a twelfth-century Pointed arch, and Sir Gilbert Scott opened up on the outside the original Saxon doorway with a wide round headed arch springing from imposts. In the porch, which is modern, there is a round opening into the chantry, the purpose of which is unknown. On the west of the porch is the vestry built in 1897 by Lord Grimthorpe. A fresco representing the "Day of Judgment" was discovered in 1808 over the chancel arch, a copy of which is in the vestry. Part of it was painted on the wall and is gone, but the centre, which was painted on wood and filled the arch, has been preserved. The font is of the fifteenth century. The pulpit, with its sounding-board, is an exceptionally fine specimen of late Tudor carving, displaying the crown and Tudor rose on the back. It was converted from a three-decker in 1866. By its side is the original iron frame for the hour-glass. The screen is from the design of Sir Gilbert Scott. The chancel is probably a portion of the Saxon church, judging from the traces of a wide round arch that may be seen in the north wall outside. There is a piscina, and in the east wall, on the right of the altar, is a small recess probably for keeping the holy oil in. The carved oak altar-table is late Tudor, and, rather an exceptional circumstance, the slab upon which it stands is a pre-Reformation altar. The chairs are good and of about the same date as the table.

To the north of the altar is an arched recess containing the monument to the great Francis Bacon. This probably forms to the majority of persons the greatest attraction to St. Michael's Church. The figure is of alabaster and represents the Lord Chancellor sitting in a high back chair, in an attitude of thoughtful repose. In his will he expressed a desire to be buried in St. Michael's, and his obsequies were carried out and this monument erected by Sir Thomas Meautys, his cousin, private secretary and faithful friend, who inherited his family possessions. The correctness of the portrait has been certified by Sir Henry Wotton, who wrote the inscription. There is an early fourteenth-century brass to John Pecok and Maud his wife; also brasses to Thomas Wolvey, a master mason, surveyor and esquire to Richard II.; and to Henry Gape and Florence his wife. In the chantry is an inscription painted on the wall to John Maynard, 1556. The tower was erected by Lord Grimthorpe in 1897 to replace a picturesque Perpendicular one that stood at the west end of the nave and had become unsafe. Portions of a Roman stone column that were dug up in the north-west corner of the present tower and may have belonged to the basilica are now in the tower, and also a Roman stone coffin.

St. Stephen's Church, St. Albans.

Outside the church, in the south wall of the chancel, is a low recessed tomb under a cusped arch, within which is placed the cover of a stone coffin with floriated cross. In the angle of the walls of chancel and chantry is a long narrow recess, that appears as if it might have been for the purpose of lighting an anchorite's cell within the walls, and at the east end is a niche the purpose of which is somewhat doubtful. Under nearly the whole of the churchyard is solid Roman masonry, and great difficulty has at times been experienced in digging graves.

St. Stephen's Church.

St. Stephen's Church is situated about half a mile south-east of Verulam at the end of Watling Street. The Roman road originally crossed the city from this point, but it was diverted by the monks in order that the traffic might pass through St. Albans. Traces of it may still be seen across the fields towards Verulam Woods.

It is one of the three churches built by Ulsinus, si abbot of St. Albans, in 948-50. It was rebuilt in the rei of Henry I., and restored in the fifteenth century. In 14 the vestry resolved to pull down the church and remove to Frognall, a position more in the centre of the parish, t the order was fortunately rescinded and in 1861 Sir Geo. Scott undertook its renovation.

It is built of flint and Roman bricks, and consists of nave with south aisle, chancel, chantry chapel, wood tower with shingle spire, and south porch. None of t Saxon work remains, except perhaps the solid foundatio of pudding stone, a portion of which may be seen on t west side of the tower.

In the north wall of the nave is a broad Norman arc now built up, and on the outside are traces of an Ear English arcade, suggesting that formerly there was a nor aisle or a chantry here. On the south side of the nave an arcade of five bays, increasing in size towards the ea In the west wall, which is Norman, are two small deep splayed windows and a Perpendicular doorway with squa label mouldings.

The chancel arch of timber is an excellent specimen Decorated work, and so also are the low-pitched roofs of t nave and chancel. The timberwork under the tower probably of an earlier date.

The chantry on the south of the chancel is dedicated St. Mary the Virgin. It is Early English and has two lanc windows in the east wall and one in the south. A sma squint connecting it with the chancel has given rise to t idea that it was a chapel for the use of the lepers of S Julian's Hospital, which formerly stood a short distan from the church, but this is not very probable as they ha a chapel for their own use in the hospital. In the south wa is a double piscina and an aumbry. In the latter are pr served some Roman sepulchral remains found in th churchyard in 1848. Mr. Matthew H. Bloxam, who h described them, believes they are relics of a person eminence, most probably one of the Governors of Ver lamium. They consist of a large hexagon cinerary urn green glass with reeded handle, a glass unguentarium, præfericulum, a patera, two cymbia, and a lamp of re pottery, also a vessel of black ware. On the floor is brass to an esquire of the name of Robins in Yorki armour, writer of the signet to Edward IV., his wife wit butterfly headdress, four sons and five daughters. Th chapel is now used as a vestry.

The font is Perpendicular and is carved with figure supposed to represent the Virgin and Child, Mary the siste of Lazarus, Mary Magdalene, St. John the Baptist, S Stephen, St. Alban and King Offa. The angels bearin scrolls represent the Apostles.

The fine brass eagle lectern has an interesting histor It was discovered in 1748 in a vault near the vestry doo where it is supposed to have been hidden for safety durin the Civil War. On it is the inscription, "Georgiu Creichtoun Episcopus Dunkeldensis." Sir Richard Lee i said to have brought it from Scotland as part of the plunde during the attack on Edinburgh by the Earl of Hertford i 1544, at the same time that he brought the Scctish Roya baptismal font of bronze which he placed in St. Alban Abbey, and that was destroyed during the Civil War The lectern apparently he gave to his own church.

The south porch is modern, enclosing a fifteenth-centur square-headed doorway. Prior to the last restoration ther were the remains of a holy-water stoup in position here.

A large stone now resting against the wall of th churchyard is believed to be a Roman milestone.

In conclusion, I desire to express my thanks to the Rev Charles V. Bicknell and Mr. Charles H. Ashdown fo valuable assistance and information supplied me in th preparation of my paper; to the Right Hon. the Earl o Verulam for special leave given me to conduct the member along the ancient fosse of Verulamium; and to Mr. Edward for having allowed the Society the opportunity of inspectin the portion of Roman tesselated pavement recently lai bare. Among the authorities I have consulted are th following:—"Archæologia," "St. Albans: Historical an Picturesque," and "St. Albans, its Abbey and Surround ings," by Charles H. Ashdown, F.R.G.S., F.C.S.; "Th Abbey Church of St. Albans," Jas. Neale, F.S.A.; "St Albans Cathedral and Abbey Church," Wm. Page, F.S.A. "The Cathedral Church of St. Albans," Rev. Thos. Perkins M.A.; and the "Environs of London," James Thorne.

The illustrations are from photographs taken by Mr Arthur I. Quartermain and Mr. E. Stanley Kent.

FIRE-RESISTING MATERIALS.

HE first schedule of the London Building Acts (Amendment) Act, 1905, contains the list of materials ch are considered fire-resisting by the London County ncil. The original is followed in its absence of ctuation in the subjoined copy :—

The following materials shall for the purposes of the of 1894 the Act of 1898 and this Act be deemed to be resisting materials :—

I. For general purposes :

1. Brickwork constructed of good bricks well burnt hard and sound properly bonded and solidly put together—
   (*a*) With good mortar compounded of good lime and sharp clean sand hard clean broken brick broken flint grit or slag ; or
   (*b*) With good cement ; or
   (*c*) With cement mixed with sharp clean sand hard clean broken brick broken flint grit or slag ;
2. Granite and other stone suitable for building purposes by reason of its solidity and durability ;
3. Iron steel and copper ;
4. Slate tiles brick and terra-cotta when used for coverings or corbels ;
5. Flagstones when used for floors over arches but such flagstones not to be exposed on the underside and not supported at the ends only ;
6. Concrete composed of broken brick tile stone chippings ballast pumice or coke breeze and lime cement or calcined gypsum ;
7. Any combination of concrete and steel or iron.

II. For special purposes :

1. In the case of doors and shutters and their frames oak teak jarrah karri or other hard timber not less than $1\frac{3}{4}$ inch finished thickness the frames being bedded solid to the walls or partitions ;
2. In the case of staircases and landings oak teak jarrah karri or other hard timber the treads risers strings and bearers being not less than $1\frac{3}{4}$ inch finished thickness and the ceilings and soffits if any being of plaster or cement ;
3. Oak teak jarrah karri and other hard timber when used for beams or posts or in combination with iron the timber and the iron (if any) being protected by plastering or other incombustible or non-conducting external coating not less than 2 inches in thickness or in the case of timber not less than 1 inch in thickness on iron lathing ;
4. (*a*) In the case of floors and roofs—brick tiles terra-cotta or concrete composed as described in paragraph I. 6 of this schedule not less than 5 inches thick in combination with iron or steel ; (*b*) in the case of floors and of the roofs of projecting shops—pugging of concrete composed as described in the said paragraph I. 6 not less than 5 inches thick between wood joists provided a fillet 1 inch square is secured to the sides of the joists and placed so as to be in a central position in the depth of the concrete or concrete blocks not less than 5 inches thick laid between wood joists on fire-resisting bearers secured to the sides of joists ;
5. In the case of verandahs balustrades outside landings the treads strings and risers of outside stairs outside steps porticoes and porches oak teak jarrah karri or other hard timber not less than $1\frac{3}{4}$ inch finished thickness ;
6. In the case of internal partitions enclosing staircases and passages terra-cotta brickwork concrete or other incombustible material not less than 3 inches thick ;
7. In the case of glazing for windows doors and borrowed lights lantern or skylights glass not less than $\frac{1}{4}$-inch in thickness in direct combination with metal the melting-point of which is not lower than 1,800 degs. Fahrenheit in squares not exceeding 16 square inches and in panels not exceeding 2 feet across either way the panels to be secured with fire-resisting materials in fire-resisting frames of hard wood not less than $1\frac{3}{4}$ inch finished thickness or of iron.

II. Any other material from time to time approved by Council as fire-resisting.

ADRIANOPLE.

HAVING recently had occasion to visit Adrianople, it has occurred to me, says a correspondent of the *Glasgow Herald*, that some account of this little-visited city may be of interest just now, the attention of the public having been attracted to it by reason of the recent disaster. Many ancient towns in Turkey, such as Ephesus and Philippi, are now no longer inhabited sites. Where Philippi once flourished there is now a stony desert scattered with ancient potsherds and fragments of brick, marble mouldings and pillars, so completely out of the way of ships and railways that scarcely ever does the tourist set foot upon it. Ephesus, again, on the other side of the Ægean, is oftener visited, but cannot boast of a single inhabitant. The brigand, by the way, is not unknown in Ephesus, but he cannot be regarded as an inhabitant. The relative level of sea and land having changed since the days of the worship of Diana, the town is now stranded and difficult of access. A group of a few mud houses a mile or so distant, which goes by the name of Ajasuluk, is just sufficient to impress upon the mind of the visitor the startling contrast between the modern squalor and the wonderfully-preserved streets and public buildings with which St. Paul was familiar, and which for about a score of centuries have been hidden and preserved by alluvial deposits. In these deposits the spade of the archæologist has been so busy in recent years that the uncovered ruins of Ephesus now almost rival in interest those of Pompeii.

But Adrianople. Though steadily on the down grade, Adrianople has not fallen into complete decay. At this moment the town must present a sorry spectacle, as apparently about one-fourth of it was reduced to ashes during the conflagration. A glance at the map discloses its position in that pathetically narrow strip of country which is squeezed close upon the shore line by budding Bulgaria. It is this attenuated stretch of European Turkish territory, almost unique in Europe in this respect, which does not invite the advent of the tourist, and he seldom goes. The man who does the Near East runs round by Egypt, Palestine and Greece, or even touches at Constantinople, but he ignores Adrianople. He may pass near it (often it is in the dead of night) in the Orient express on his way to or from Constantinople.

Adrianople, called Edirne by the Turks, and very anciently Uskudama, is the ancient capital of European Turkey. Hadrian embellished it, and in its name is enshrined that of the mighty emperor. A second Hadrian would now find much work to do. The streets are narrow, twisted and badly paved. The houses, usually of no great height, are chiefly built of mud bricks inserted in timber framework, but some buildings are constructed entirely of wood. Quite recently a large part of the worst quarter was in course of demolition preparatory to its being reconstructed. Whether the opportunity of putting the place into better condition will be seized after the recent fire is doubtful. Adrianople's day appears to be done. Once, and not so long ago, a flourishing place with big markets and a population of 90,000, it has lost sources of revenue since Turkey was deprived of territory in the vicinity of the town. Indeed, the Bulgarian frontier at its nearest point is now only twenty-five miles distant.

Nowhere else in Turkey have I seen such interesting street scenes as in Adrianople. The provincial Bulgarian dress is here seen in abundance, and also an array of purely Eastern costumes. On certain week-days the open-air bazaars are crowded to suffocation with hordes of gaily-arrayed peasants. As elsewhere in Turkey, even during the most important fêtes the absence of drunkenness is noticeable. Disturbances and unrest seem, indeed, chiefly to arise from religious and political causes. The wine of Turkey is not a product one hears much about. It is of inferior quality, but that grown near Adrianople is said to be the best. Better methods of cultivation and preparation are sadly required. The wine grapes in the Adrianople bazaar cost one-fourth of the price of similar fruit in the Rhine district. Among other articles produced in the neighbourhood are cocoons, spun silk and perfumes distilled from roses. There are several flour mills and a large trade is done in raw hides.

The Turks consider that the Adrianople mosque of Sultan Selim II. is the finest in the Empire. It was built about 1550 by Sinan, the greatest architect of the Osmanlis, and he himself considered that this mosque was his masterpiece. It is certainly a noble structure, and stands in a commanding situation. Its vast interior, almost destitute of ornament, constitutes a dome nearly equal in diameter to that of the Pantheon. The arrangement of the portico is most impressive. Here Sinan has utilised several huge ancient Roman pillars of green marble.

THE UPPER BURE COUNTRY.

THE members of the Norfolk and Norwich Archæological Society who joined in the summer outing, says the *Norwich Mercury*, had an unenviable share of the day's rainfall, but with a stoicism that was commendable they stuck to their day's programme, and despite all drawbacks, drew therefrom a great deal of enjoyment. From Norwich to Wroxham the journey was made by rail, and at the latter place vehicles were in readiness to convey the party by road.

Belaugh, with its church perched high on the hill overlooking the winding river, was the first stopping-place. Here Mr. Leonard G. Bolingbroke read a brief paper, in which were pointed out the chief objects of interest in and about the fabric. Its two glories were the font and the rood-screen, the former of Purbeck marble and evidently of Norman work. The screen, of oak, must have been rich in colour, and its twelve panels yet have on them finely worked figures of saints, though, as one so often finds, with the faces obliterated. On this point Mr. Bolingbroke read passages from a letter addressed by one Tristram Craske to Thomas Tofts, then Sheriff of Norwich, as follows:—

"Coulshill: May 27th, 1643.

"Sir,—Tis true what Phineas Puckle told of the scandalous minister at Belagh, and his unpurged mass-house. —— Master Sherwood, albeit his fasts, is bulky, and was fain to leave his cloak and baldrick at a dwelling below the hill whereon Belagh steeple-house standeth, perked like one of the idolatrous high places in Israel. And this also reeketh foully of superstition. King Edward of pious memory brake down the Virgin Mary with Christ in her arms in the place prelatics call the chancel, and took away divers Popish vestments, cups, platters and candlesticks. In a window S. Michael remains, together with many idolatrous; on the floor three Orati pro animas. In the aisle we saw a picture of S. Helen. The screen hath twelve apostles, their faces rubbed out by a godly trooper from Hobbies (Hautbois); he pulled down a stoneing cross. Oh, Master Tofts, the loft yet standeth. . . . Your servant to command, &c. Tristram Craske."

From Belaugh, the drive was continued through the long and straggling village of Coltishall, a halt being made when the Hautbois, Great and Little, were reached. Great Hautbois new church was first visited, just to glance at the quaint old font base, which once did duty in the old building, a quarter of a mile or so distant. In shocking taste, a plain, box-shaped basin now surmounts the elaborately-wrought pedestal. At the ruins of the old church, a portion of which now serves the district as a mortuary chapel, Mr. R. J. W. Purdy, from his vast store of knowledge of the locality, enlightened the party briefly as to its past history. The two parishes, he remarked, took their names from the high ridge of wooded ground overlooking the Bure, on which they stand. Some of the trees which formed part of this extensive wood yet stand in a plantation to the north of the churchyard. The old church is in ruins to-day, but the tower and the two walls yet testify to its former condition. How changed is the present-day appearance of the two parishes was made evident by Mr. Purdy by means of a tracing of an old manorial map, kindly lent by Sir Edward Birkbeck. Gone, in great part, is the old church, gone is a hospital close by which once fed the poor and pilgrims to the abbey of St. Benet's, though beside the ancient causeway one still finds the old fish pond used by this "God's house;" gone, too, are a number of houses by the roadside, which once constituted the "towne of Hautbois," and gone also is the moated castle, which once overlorded church and village, only fragments of a flint foundation remaining to tell of its greatness. The possession of a swannery told also of the importance of this manor in former days.

Little Hautbois Hall, close by, tells too a tale of bygone glories. It is familiar to travellers along the Coltishall line, with its finely-moulded Elizabethan front and back. At present it is used as a farmhouse, the rental going to the Norwich Corporation for charitable purposes.

A short drive brought the party to Lammas, where, at the Anchor inn, an excellent luncheon was ready. A heavy downpour of rain delayed the proceedings somewhat at this stage, but eventually the weather showed slight signs of improvement, and an onward move was again made.

The handsome church of Stratton Strawless was th next stopping-place. Mr. W. J. Birkbeck, who for som years past has laboured here with the labour of love for th beautifying of the church, furnished an excellent paper o the history of the building. Though not dating back beyon the fourteenth century, it is a most interesting structur notwithstanding that extensive reparations and restoration have been made in comparatively recent years. Much o the old stained glass which once filled the windows ha he was told, gone to the adornment of the old manor house, which was burnt down. The south side of th nave, screened off, serves as a chapel, and here ar massive mural monuments to various members o the Marsham family. The death of Henry Marsham, hi wife, his son and his infant daughter, are recorded i marble effigies, and to this day are commemorated on th last Sunday in each August, a charge of 3*l.* having been lef on the estate for the period of 400 years from the yea 1692, one pound going to the parson to preach a sermon o death, one pound to the ringers, who shall ring a muffle peal, and one pound to the poor women of the parish. Th hand of the restorer, Mr. Birkbeck observed, had lef practically nothing of the original fabric, but he urged that in many cases, what was done was the best for the requirements of the particular period and people. In his work o restoration he had been guided on similar lines. Originally as ancient documents testified, the church was rich in its possession of plate and vestments, but the greater part o its treasure had, doubtless, been stolen. It had been his endeavour within the last five years to restore, so far as the usage of the Prayer-book permitted it, the former ornaments of his parish church. A number of richly embroidered altar cloths and vestments were brought to the church for the inspection of the visitors, and, in addition, a massive cope-clasp, rich in gold filigree and precious stones, bought by Mr. Birkbeck, it was said, in Russia.

A paper on Marsham Church was read by Mr. C. L. Buxton, who subsequently entertained the company to tea at Bolwick Hall. In the course of his paper Mr. Buxton said:—The saddest fact about our church is the terrible loss it has sustained by robbery or neglect in the last 200 years. In Blomefield's time the church was filled with stained glass. The top of the screen was here in all its glory, and the canopy of the font was still in use, and, above all, the laughing boy of Marsham was still beaming upon every one who entered the church. The laughing boy was a small figure projecting outwards from the top of the second arch of the north aisle, and directly over where the font with its covering then stood. From the middle of his body was a pulley, by which the font canopy was raised and lowered; but his face was the feature which made him beloved by the people of Marsham. He looked downwards like the angels on the hammer-beams; but whatever point of the church you were in he seemed to be looking at you and smiling. An old inhabitant described to me the dismay with which a party of boys entered the church one morning sixty-six years ago and whispered to one another, "Why, our laughing boy has gone." All these losses seem to have been the work of one or perhaps two archæologists, collectors, thieves or whatever you like to call them. The rector lived elsewhere, and left everything to his churchwarden, who in his turn allowed the robber to work his wicked will. The only pieces of stained glass left are the tiny elephant and unicorn still in the north aisle. To turn to the screen, there was, as said in Blomefield's time, an inscription to one John Norton and his wife. It ran thus:—"Orate pro animabus Johannis de Norton et Margarete uxoris, quorum animabus Deus propicietur." It is all gone, but a trace is still to be seen on the north side of the doorway. If we could find the date of John Norton's death it would help to fix the date of the screen. The saints are difficult to make out, and this is said to be caused on the south side by the fact that the brown ground of the figures to the south of the doorway has been at some period repainted, and no doubt the emblems were destroyed at the time. This I find in a note by C. W. J. Winter, sent me by Mr. Bryant. Anyhow, the emblems are most of them gone. The figures consist of a female saint to the north, followed by the twelve Apostles and a mitred bishop. The staircase up to the rood-loft in the north side has been reopened, but it appears to me, from indications both in the south aisle and the chancel, that there was a second staircase upon the south side. This was by no means a rare arrangement, and where it was used the custom was for the priest to ascend by the south staircase and come down again by the north.

ıere was no date on the Marsham screen, but if it ıs true,
Andre thought, that the screens at Marsham and Aylsham
e by the same hand, we may suppose it to have been erected
ıout the year 1507, as that is the date on the Aylsham
ıe. The font formerly stood under the second arch from
e west end of the north aisle; it was moved to its present
ısition in 1880. It is one of a number of fonts carved
ith the seven sacraments of the Roman Church. They
e octagonal, and the eighth panel is variously treated.
milar fonts at present remaining in England number
enty-nine, and of these sixteen are in Norfolk, eleven in
ıffolk and two elsewhere. The dates of them appear to
nge from 1460 to 1510. Our own may be dated, it is
id, by the ladies' head-dresses, at about the year 1467.
this instance we derive a real benefit from the changing
shion of ladies' hats. The East Dereham church accounts
ow that the cost of erecting a similar font there in 1468
as 12*l.* 13*s.* 9*d.* You will observe how much the font is
faced, and I always supposed that it was the work of a
ob in an outburst of Puritanical fervour. In more than
ıe instance, however, it appears to have been done
the direct order of the churchwardens. At Loddon,
r instance, they contracted with one Rochester to do
for six shillings, and Thomas Randandall wrote out the
venant about it for one shilling. This was in the year
42. There are many tombstones in the church to people
the names of Lyng, Grix, Jeckell, Tennant, Thorsby,
scar, Hartly, Dyball, Morrill Cook and Pike; but by far
e most interesting is the nameless one by the pulpit. It
ıs, as you will see, the word "Oblivio" repeated eight
nes round it, and an inscription in the middle. Blomeld gives the inscription as "Oblivioni datus sum, tanquam
ortuus a corde," and Mr. Michell follows him, but since
omefield's time all traces of the word "Oblivioni" have
nished. It may be that the stone was softer there and
ıs worn. I am unable to explain it now. But taking for
anted that it was once there, we may take the meaning to
, "You shall never read my name on this stone," for "I
n condemned to oblivion as having been dead in the
art." I suppose it implies that the man was a suicide or
murderer, but as to the facts or the date they are hidden
om us. In the vestry may be seen a piscina and a small
icked-up opening, which has been called a lepers' window,
ıt I have never understood how the lepers could have seen
rough a window so high from the ground or what they
uld have seen through it, since it looks into a dark corner
the vestry.

The drive from Stratton Strawless Church had been
rough a district of rare sylvan beauty. As Mr. Purdy put
Stratton, once a bare stretch of country side, is now a
umph of the tree-planter. Fine stretches of timber greet
e eye on every hand, and Stratton Woods, rich in foliage
d undulating turf, are to-day a striking example of the
e adornment of nature unadorned and unspoilt by the
nd of man. Here, too, is an abiding place of the woodck, which, within a well-defined district reaching to
akeney in the north, adds considerably to the bird-life of
ese woods. Near Rippon Hall scattered mounds on either
le of the roadway are all that remains to tell of an old
itish trackway that once stretched from the Roman
metery at Brampton to Castleacre.

Burgh Church was the last halting-place. Dr. Bensly
idly contributed a few notes on the history and archæoy of the building, and Mr. Walter Rye added an intesting postscript to the effect that Burgh, in the reigns of
ward II. and III., had been a royal hunting seat, and both
ıgs had undoubtedly visited the district on several occans. Had time permitted Oxnead Hall, the home of the
stons, by the pleasant waters of the Bure, would also
ve been visited, but since trains, like the tides, wait for
man, a move had to be made towards Buxton Lammas
tion and home. By general agreement the day's proımme had been one of unusual interest, despite the
etchedness of the weather That things turned out so
cessful was, in a great measure, due to the foresight of
. L. G. Bolingbroke, the secretary, who, throughout the
, with Mr. John Quinton assisting him, piloted his large
ty with tact and skill.

A Bust of Charles Dickens, by Mr. Percy Fitzgerald, has
n presented to the city of Bath. Three of the sides of
pedestal show scenes relating to Bath from "Pickwick."
e pedestal bears the following inscription:—"The work
ercy Fitzgerald, M.A., F.S.A., friend and pupil of Boz,
l presented by him to the City of Bath, 1905."

TESSERÆ.

Classic Columns in Churches.

In the spoliation of the Roman buildings a large number of very small columns was found, which were never used to any great extent in the interiors, except, perhaps, in a few of the later triforia. They were, however, lavished upon the exterior decorations. The earliest mode of using these columns was to cover the whole façade with galleries one above another, presenting to the eye arcades of semicircular arches resting upon the columns, which stand upon a corbel table a little above the vertices of the arches of the arcade below. These gallery arches from a decorative point of view are like the portico reduced to a smaller scale. In the Duomo of Pistoja the portico projects beyond the plane of the upper arcades, as it does from the wall of the earlier arcades. In the façade of the Duomo at Lucca, however, we find the arcade of the portico in the same plane with the gallery arcades, and the arches of the portico rest not on single columns but on compound piers, with semicolumns set against the exterior faces and nook-shafts in the adjoining nooks.

Thomas Girtin and Lord Elgin.

Lord Elgin offered Girtin 30*l.* a year to go with him to Constantinople, and as Lady Elgin possessed a taste for drawing, wished to know whether he would engage to assist her in decorating fire-screens, work-tables and such other elegancies. Girtin replied "that for that department he greatly feared that he was an unfit person, and he must add that the salary proposed was too small." His Lordship remarked "that he was poor." Girtin then told him "that he would engage to find a publisher who would return the whole money for the drawings when made," and this observation closed the conversation. In the course of this negotiation Girtin spent many useless hours impatiently by waiting between the hall and the presence chamber, and had the mortification to learn a severe lesson—that his talents were not estimated at half the value of those of his lordship's valet de chambre.

Solomon de Caus.

Solomon de Caus, a Gascon, was drawing-master to Prince Henry, son of James I. Walpole says that in the year Prince Henry died, namely 1612, he published a book entitled "La Perspective, ou Raison des Ombres et Miroirs," with several engraved plates, folio. But what brings him under our observation is a note by Walpole on his own matter, in which he says, "I have learnt that the front of Wilton, by Inigo Jones, was conducted by this De Caus." The following note by Dallaway is yet more important to us:—"De Caux, or Caus, was employed by Henry Prince of Wales in making additions to the palace at Richmond before 1612. It was a picture gallery, which was afterwards furnished by his brother Charles I. It appears from the "Archæologia," vol. xv. p. 17, that De Caus had been paid 2,826*l.* 0*s.* 10½*d.* on account of these works, and there remained due to him when the prince died in 1614 303*l.* 13*s.* 6*d.* In the Lansdowne MS., No. 446, Brit. Mus., is an account of moneys issued to Solomon de Caus for works at Greenwich and Somerset Gardens in 1612." From prints in his book on "Perspective," Walpole supposed him to be a brother of Isaac de Caus, and to have assisted him in building the porticoes and loggias of Gorhambury, and at least part of Camden House, Kensington.

Correspondence

Iona Cathedral.

Sir,—I have only recently seen the remarks in *The Architect* of August 18 on my letters criticising the "restoration" at Iona. I have no doubt that, in ordinary justice, you will allow me to reply, particularly since much of what I said is (no doubt unintentionally) misrepresented.

It really cannot be denied that the building had been plastered and that much of the plaster remained—any photograph of the unrestored church, particularly of the east end (where the old line of the flat roof or ceiling is clearly marked) will prove this. That so much of the traces of fresco-painting has been destroyed is due to the policy of stripping combined with want of supervision. As to the preference suggested for irregular masonry left bare, Mediæval builders, who plastered this and similar stonework, are generally supposed to have known their business.

As regards the roof, this was, no doubt, in all probability much as Mr. Honeyman suggested. But I never denied this. In that case the (inner) roof was still flat, and the old corbels were not useless. The reason given in *The Architect* why a flat roof to the north transept "would have been manifestly absurd" is twofold. (1) That it had been given up in the rest of the building; (2) that it was necessary to have an additional window to give light. As to (1), it is difficult to see why this part of the roof at least should not have been correctly restored. As to the necessity for a window, the island has a small population; it is not very accessible; there are three churches besides, and hardly any of those persons seated in the transept could see the minister. And if there was no absolute necessity, I fail to understand how any one can think of defending the insertion of a window in a position which is glaringly impossible in a monastic church like this. I did not recommend the insertion of a window, as your article suggests, "on the outside." I wrote (see *Glasgow Herald*, August 3), "the window would have opened into the upper storey of the domestic buildings," referring, of course, to the "commonplace Gothic rose window" complained of just above in that letter, which is the only window mentioned in it. I thought that this statement would have been an obvious *reductio ad absurdum* of the window actually so placed. But it is twisted round into a recommendation, and sarcasms about glass roofs are founded on this miscomprehension.

As regards the design of the window, I cordially agree that it is not quite like any ancient specimen. I think I have seen round windows in modern chapels which resembled it; others, too, have thought it "commonplace," but I have forgotten places and details, therefore I cannot prove that it is not a new design, and I should be glad to believe that it is unique. Finally, I referred to "eclecticism" not (as your article implies) in connection with the window alone, but in reference to the marvellous combination of a Gothic wheel window with a Romanesque arch framing it (see *Glasgow Herald*, August 3). As to the carving obtruded on the old sacristy door, since nothing is said in defence of it, I shall add nothing here to my former criticism.—I am, sir, yours faithfully,

A. C. Champneys.

Londonderry: September 9.

GENERAL.

An Exhibition of Scottish art is to be held at Helsingfors, Finland, this month. The idea of holding a good representative exhibition of the art of Scotland in Finland was due to a gentleman of Helsingfors, Mr. Ossian Donner, who is to pay the cost of the transport and insurance of pictures sent until safely back to Edinburgh. The committee on this side charged with the exhibition consisted of Messrs. P. W. Adam, R.S.A., and J. H. Lorimer, R.S.A.

His Majesty's Office of Works have decided to introduce wood paving into the quadrangle of Burlington House. The equestrian statue, *Physical Energy*, by the late Mr. G. F. Watts, R.A., must therefore be removed.

The Royal Dublin Fusiliers invite designs for a memorial of fallen comrades, cost not to exceed 1,200*l.*, and to take the form of a triumphal arch, statue or other suitable monument.

Mr. Francis Fox, the engineering expert who has been consulted by the Ayrshire authorities regarding the preservation of the Auld Brig of Ayr, has made his report after a thorough inspection of the structure. He is in favour of the retention of the bridge, a method being suggested of making the structure sufficiently strong to withstand the influence of spates and weather without involving very great expenditure.

The Parish of Abberton, Worcestershire, with its village, manor, hall, mill, farms, orchards, cottages, allotments and the patronage of the living was put up for sale by public auction at Birmingham on the 9th inst. Some of the parts were sold. The hall, with the manorial rights and privileges, was withdrawn, as only 7,900*l.* was offered.

Mr. C. F. Dowsett, F.S.I., has issued a small pamphlet on Winklebury Camp, Basingstoke, which he claims is as old an example as Stonehenge. The pages contain much information relating to prehistoric earthworks and other archæological subjects.

A New Publication entitled "The Rhodesia Review," and edited by Mr. Percy Lindley, has been started, and contains articles relating to the prospects of the great settlement of which Cecil Rhodes was the founder.

The Worcestershire County Council on Monday appointed Mr. A. B. Rowe architect to the education committee at a salary of 250*l.*, with an allowance of 50*l.* fo travelling expenses, but the appointment was made an annual one instead of permanent, as recommended by the committee.

The Rector of Stoke-on-Trent parish church, writing in his *Parish Magazine*, says:—"Unfortunately the difficulty about the pinnacles does not diminish. The design which was strongly advised by the architects and accepted by the sidesmen at their meeting, when they saw it on paper, does not prove to be acceptable now it is seen in stone. So much was this felt to be the case that an offer was made to the sub-committee that if a different one were erected more nearly on the old lines the expense would be defrayed by a guarantor if it did not meet the wishes of the sidesmen and had to be taken down. This is now being erected and the townspeople will have the opportunity of comparing the two and suggesting the proper decision to the sidesmen. The work that is being done is being well done, and will, I hope, prove a lasting benefit. The dismantling has shown that there was real danger, many of these large stones, including four weighing over 29 cwts. each, having been standing merely by their own weight, owing to the perishing of the mortar."

The Local Government Board have informed the Limerick County Council that they are about to increase the salary of the county surveyor, Mr. J. Horan, in view of the increased duties cast upon him through the operation of the direct labour scheme in the county of Limerick. Since the Local Government Act came into operation the County Council have raised Mr. Horan's salary from 600*l.* to 800*l.* per annum. With the passing of the direct labour scheme he asked for further remuneration, the Council agreeing to pay him 125*l.* in lieu of mileage. This he refused to accept, and on appeal to the Local Government Board they ordered a sworn inquiry to be held. The Local Government Board have now decided to increase Mr. Horan's salary by 300*l.* while the direct labour scheme is in operation, the sum to be payable as long as the roads of the county are maintained under this system.

The Liverpool War Memorial, which was unveiled on Saturday, stands on the west side of St. George's Hall. On the left of the stepped platform stands a soldier in the uniform of the original Liverpool Regiment about 1685; on the right a khaki-clad figure as in the South African war. All the figures as well as the emblems which lie at the foot of the pedestal supporting the heroic centre figure are cast in bronze; the rest of the memorial is in grey Scottish granite. At the back is a seated drummer-boy in an early uniform of the regiment. The work was executed by Mr. W. Goscombe John, A.R.A.

Interesting Discoveries have been made in the course of operations at Culross Abbey. Embedded in the masonry has been found a beautifully sculptured stone. On the stone is chiselled a Maltese cross and an ancient form of sword. While there is nothing beyond the sculpture on the stone to indicate what purpose the relic has had, it is believed to be part of the headstone of an ancient chieftain, who lived probably fifteen centuries ago. Near the same place was found a small baptismal font. Recent operations have also revealed part of the original foundations of the building, which are believed to go back beyond history. Most of the old stones, which are being taken out, are being refaced and put back in their original situations.

The Recently-constructed Bridge over the Zambesi river at the Victoria Falls was formally opened on the 12th inst., during the visit of the British Association to the Falls, by Professor G. H. Darwin, the president of the Association. The total length of the bridge is 650 feet, consisting of a main span of 500 feet and two side spans. There are two lines of rails and the weight of the structure is 1,650 tons. The height is about 400 feet from the water. The work was commenced in October 1904, and the bridge was linked up on April 1, 1905, on the very day estimated a year previously. There are still some finishing touches required before it can be said to be actually complete, but in the meantime railway material is passing over it, and 130 miles of line north of the river have already been laid, and construction is being carried on at the rate of over a mile a day.

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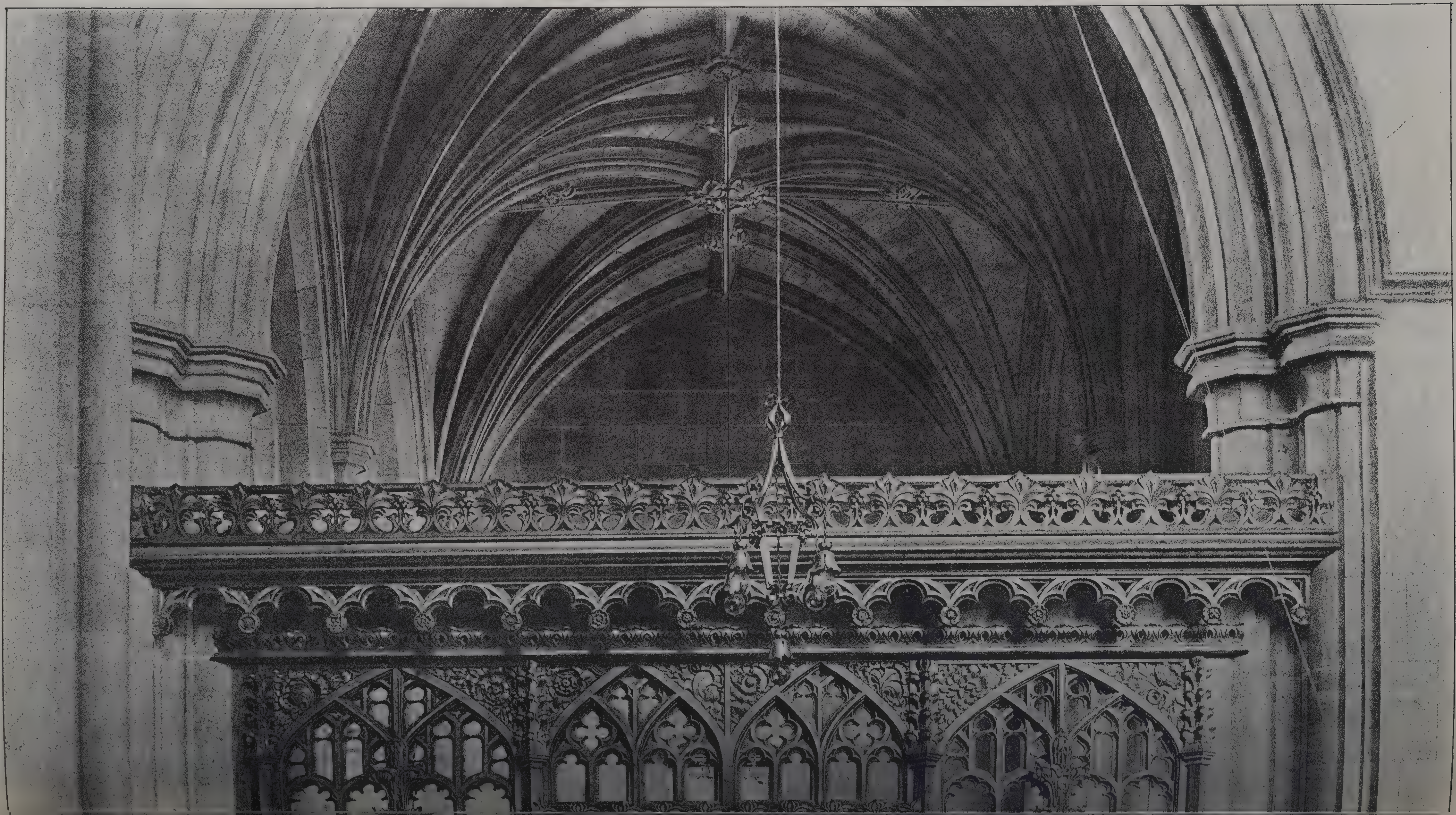

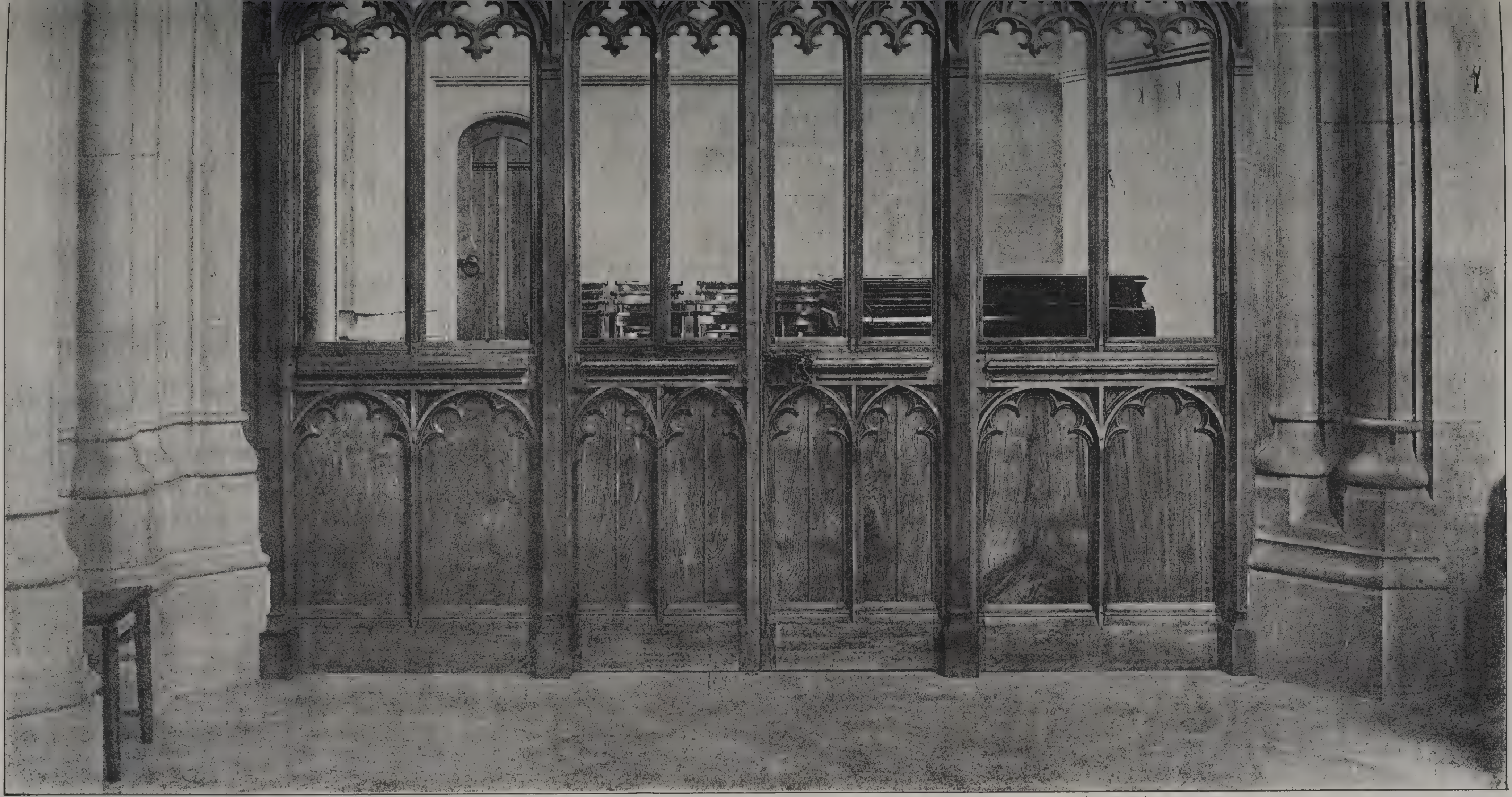

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CATHEDRAL SERIES, NO. 534.—WAKEFIELD: ONE OF TWO CARVED WOOD SCREENS, WITH DOORS TO THE NEW ST. MARK'S CHAPEL.

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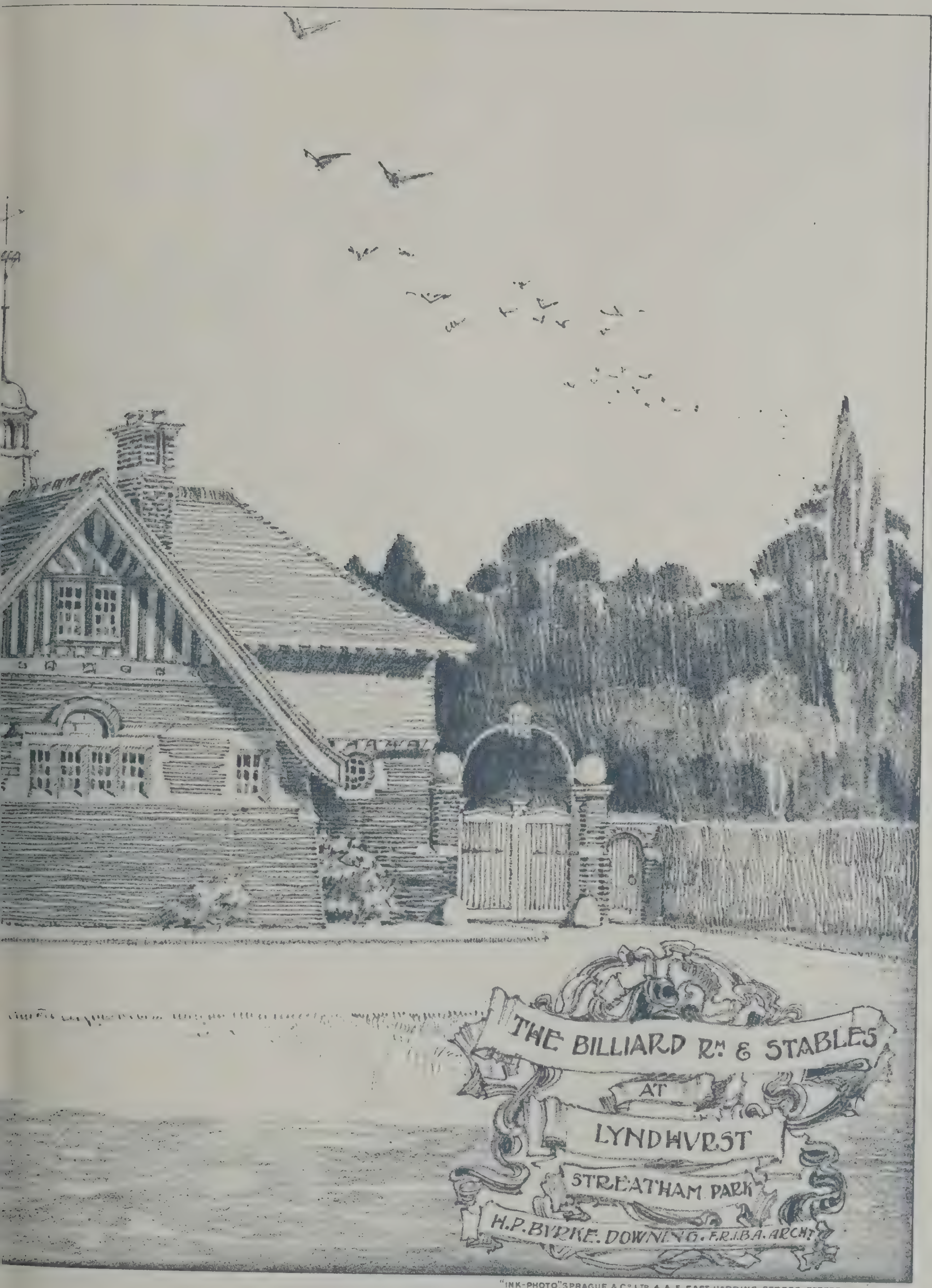
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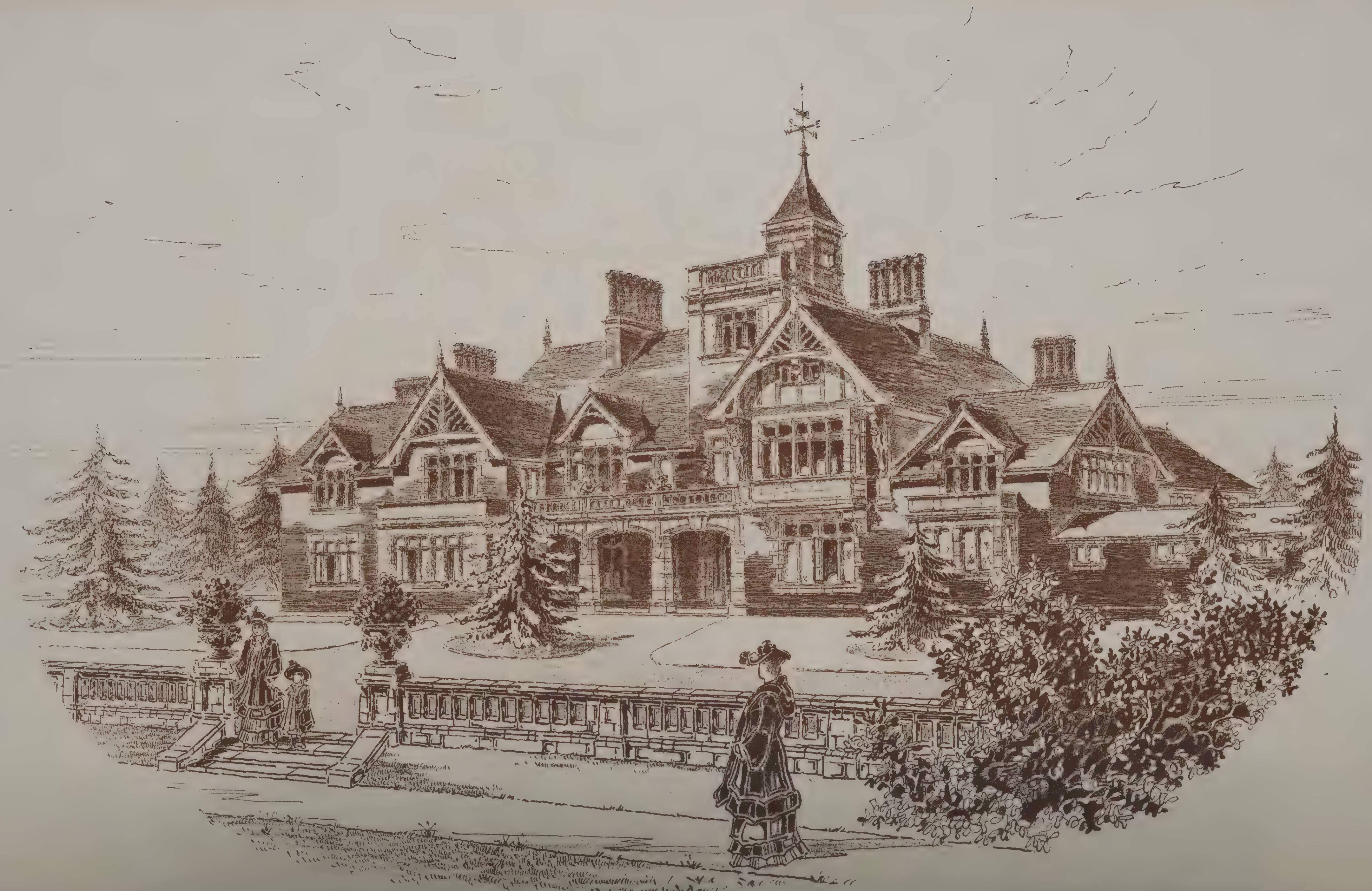

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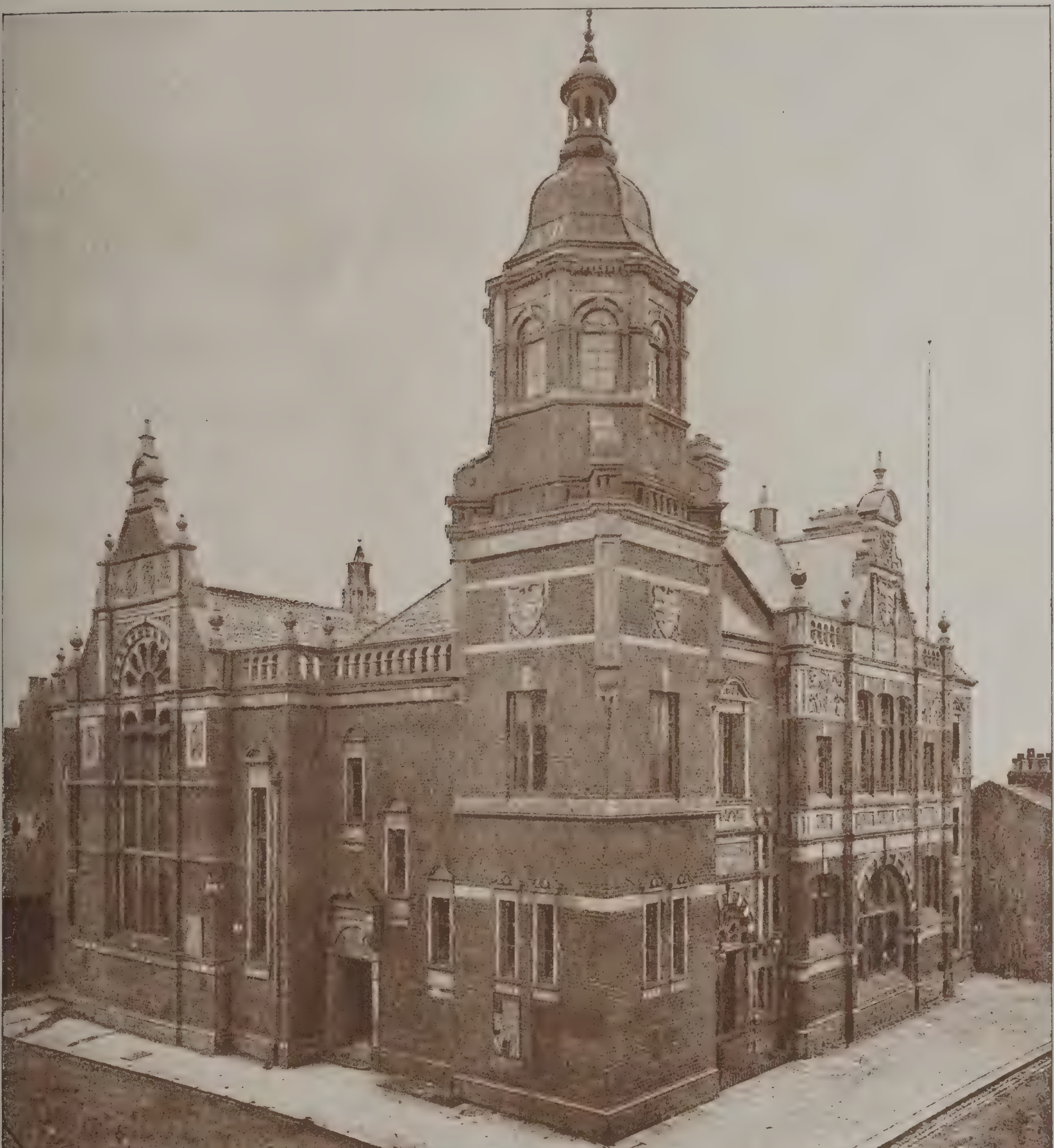
RESIDENCE, PURLEY.

ROBERT BOUGHTON, Architect.

The Architect, Septr 15th 1905



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Messrs. PARR & KATES, Architects.

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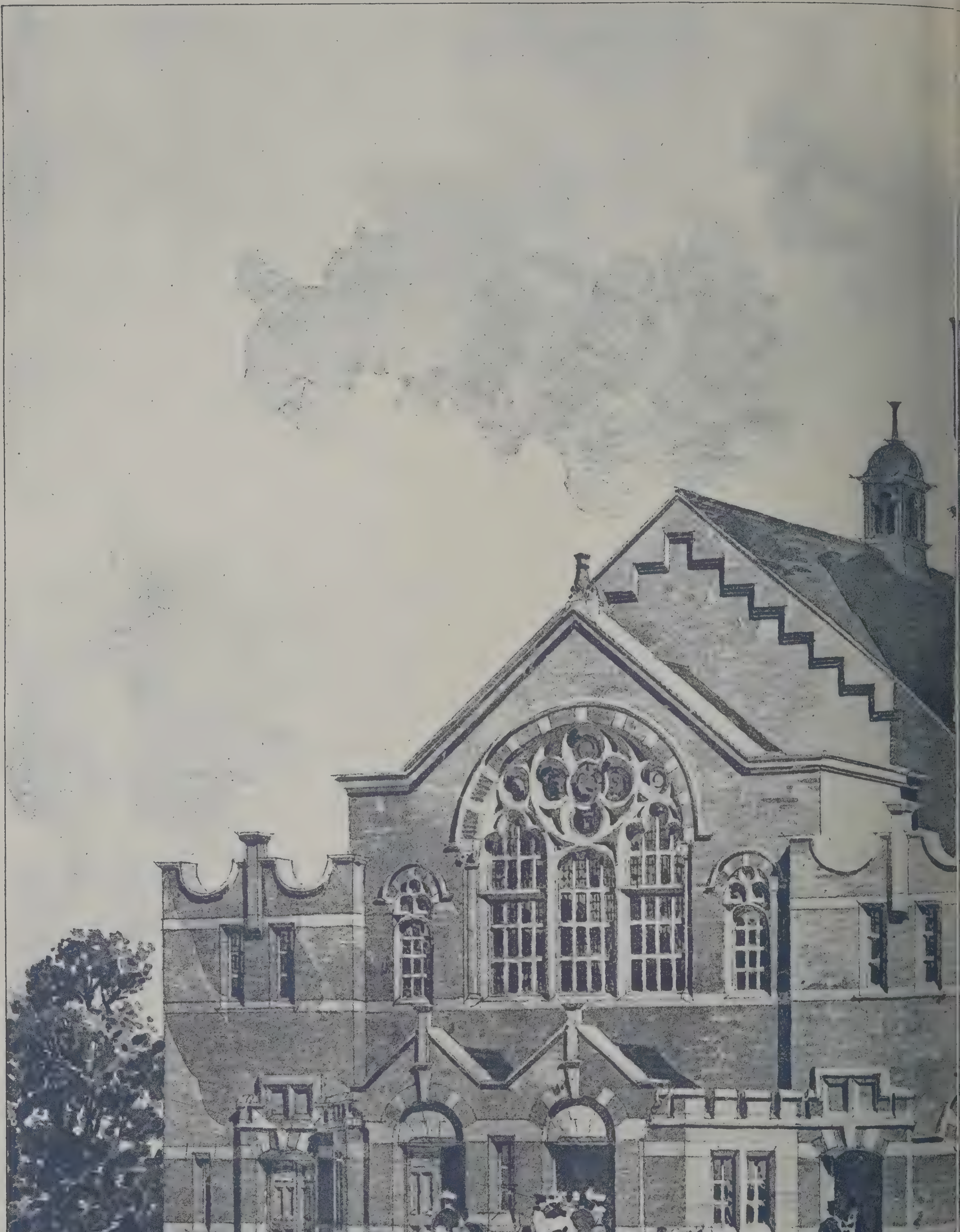
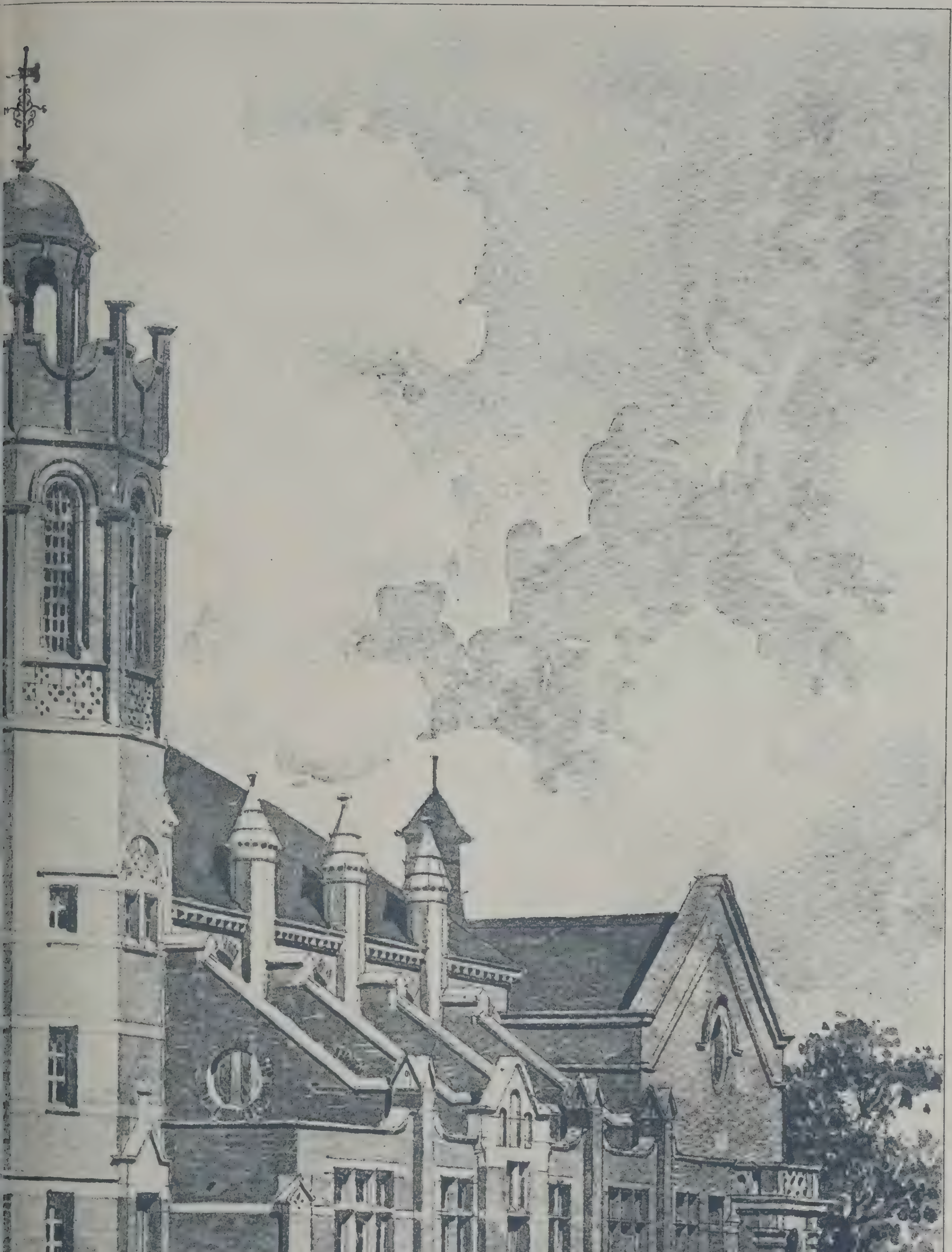


BAPTIST CHURCH, HALF-

J. WILLIAM STI



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The Architect.

THE WEEK.

THAMPTON has let an opportunity pass of obtain- two ancient buildings which would have been a rable addition to the property of the town. At the ner of Blue Anchor Lane is an ancient building known he name of "King John's Palace." King JOHN may er have looked at it, much less occupied it. But e is no doubt about its antiquity. Another building alled Tudor House. Both structures belong to SPRANGER. It was considered that Tudor House d be made to serve for a museum. Communications entered into with the owner, and he agreed to sell two properties for 4,200*l.* They cost Mr. SPRANGER o*l.* The estates committee recommended that the properties should be purchased, that the Local ernment Board be asked to permit a loan being d for the amount, and that the Council should adopt Museum and Gymnasium Act. The proposal was e the subject of a long discussion, but eventually it rejected. The reason for the opposition to it is a powerful one, viz. taxation is already so high in hampton the Council dare not increase it.

T is difficult to attain originality in painting, and there is any suggestion of the kind it is welcomed hibitions. On that account the work of M. FRITZ LOW has been sought by visitors to recent exhibi- of the Royal Academy. In his hands old archi- re assumes a weird character which is novel. HAULOW has been a resident in Paris, for his s are as much appreciated in the Salon as in the emy. It was recently announced that the differ- between his native country, Norway, and its bour, Sweden, had compelled him to leave Paris in to serve as an officer of artillery in the Nor- n army. He was said to be attached to the tain section. The statement was entirely un- rised and imaginative. M. THAULOW will not have portunity of displaying his courage and skill as an rist.

IE value of the patches of plaster on the walls of oir of the cathedral of Iona is greatly exaggerated . CHAMPNEYS. Anyone can understand that after ure during summer and winter on walls open weather on both sides for centuries, the only le course was to take off the crumbling remains plaster in order to prevent constant annoyance the building was reoccupied. The architect, we se, would not allow stones to be cleaned to which me stuck firmly, as some proposed, his object no doubt to preserve evidence which should be isable by the experienced eye that the walls t some time been plastered. As regards the w, Mr. CHAMPNEYS, in the letter published last says that when he spoke of a window in the gable looking into the dormitory, he meant that esent window would do so. But in this he is en. The architect was not likely to fix on the n of a window in the gable without first having design for the restoration of the adjoining building. indow will be perfectly clear of the roofs. For the ne Mr. CHAMPNEYS acknowledges that this rose v is not "commonplace." He says in effect that ncongruous, a thing which the "commonplace" r would most carefully have avoided. Of course butes the incongruity to carelessness or ignorance. se acquainted with Mr. HONEYMAN's record will believe that it was done fearlessly and deliberately, for reasons which were sufficient to justify some departure from "commonplace" practice, and which no doubt he will in due time explain. Meantime, he may be excused if he declines to waste time explaining away the difficulties of premature critics, whose chief object seems to be to throw obstacles in the way of a national work of some importance, which the Iona Trustees, by the terms of their constitution, are bound to carry out.

LAST week a statue of THOMAS JEFFERSON, the American statesman, was presented to the city of Angers, the birthplace of the sculptor PIERRE JEAN DAVID, commonly known as DAVID D'ANGERS. He was desirous of representing lovers of liberty, for he fought as a Revolutionist in the streets of Paris. JEFFERSON was well worthy of his chisel. It was he who drew up the Declaration of Independence, and he was sent as Minister to France, and was able to secure a French alliance. He was the third President. JEFFERSON deserves to be remembered for his love of architecture, and one of his ambitions was to improve the taste of his countrymen in order that they might gain the praise of the world. While in Paris he was asked to obtain plans of several public buildings and especially a capitol. He consulted an architect on the subject, and adopted the Maison Carrée at Nîmes, for, according to JEFFERSON, "it is one of the most beautiful if not the most beautiful and precious morsel of architecture left us by antiquity. It is noble beyond expression, and would have done honour to our country as presenting to travellers a specimen of taste in our infancy, promising much for our maturer age." A different design was however adopted, to the grief of JEFFERSON, who wisely asked :—"How is a taste in this beautiful art to be formed in our countrymen unless we avail ourselves of every occasion when public buildings are to be erected of presenting to them models for their study and imitation?" Angers should be proud of possessing the statue of so eminent a man and which is the work of its most renowned citizen.

"ET TU, BRUTE!" One of the myriad trippers to Blackpool might in reason use a similar expression to that of the Great Roman when hearing of the action of the Corporation of that resort. To a stranger the most remarkable spectacle that is offered in the town is the crowds of people who come there from various parts of England, and often only for a day's outing. Without their patronage Blackpool would cease to have any importance. The Council are, however, not only dissatisfied with the numbers, but they are endeavouring to induce other seaside towns to join with them in considering whether a check cannot be put upon those temporary visitors. They have appointed a committee to consider and report upon the question of the congestion of the dates of fixed annual excursions into Blackpool from various towns. The committee have met and they believe that in other health resorts in July and August there are, as well as in Blackpool, a larger proportion of visitors caused by the greater number of trade holidays at the end of July and in August than in other months of the year. With a view to considering how far these holidays may be varied a conference on the subject is to be held at Preston, at an early date. The units who make up the crowds are not always their own masters in respect of holidays. It is allowable that they should prefer days when the weather is likely to be fine. If the Blackpool Town Council did not care to receive a large number of visitors, why has there been so much expense on the great roadway and other works along the shore? The subject is one which has importance, because the arrangement of a modern watering-place is regulated in a great measure by the numbers and character of the temporary visitors.

IN PRAISE OF ARCHITECTURE.

IT was a masterly stroke of policy on the part of the American Institute of Architects when, by purchasing a house for offices, a footing was obtained in Washington. In no other way could the representative character of the Institute be so well emphasised. The capital is the centre of the United States in a way which does not belong to the old cities of Europe, and it becomes essential that all interests which are worth protection should endeavour to have an influence there. One proof of the success already attained was the annual dinner which took place in Washington in January last, and of which an elaborate report has just appeared under the title of "The Promise of American Architecture."

In America, as in England, there is a class of people who find pleasure in appearing as guests at public dinners, and who are prepared to make long speeches on any subject provided that they are reported for their own glorification. But such professional diners-out were not invited. There were present, besides the President of the United States, the President of Columbia University, the French Ambassador, Cardinal Gibbons, a former Secretary of War, Mr. La Farge, the painter, Mr. Saint-Gaudens, a judge of the Supreme Court, the Speaker of the House of Representatives and one of the members of Congress. As Mr. Eames, the president of the Institute, said, there was not only a larger number of members than were present at any previous function, but they had also the people most intimately associated with the appreciation of art and the supporters of the highest aims which architects could claim. It was no wonder that under such circumstances the speaking should be left to the guests. It must be added that the guests were equal to the opportunity. It was taken for granted that there was no need to puff the members of the Institute, or to profess a desire to furnish them with commissions. Not a word was said to suggest that the Institute was a trades union, or that it could command votes in any part of the States. It was felt that the occasion was one for the expression of national aspirations for the success of an art which was essential to the greatness of the country. Indeed, some of those who were unable to be present voiced the spirit of the guests equally with the speakers. The President of Harvard, for example, wrote the following wise words:—"When a country gets rich and strong, industrially and commercially, the first way in which its wealth should be visibly expressed is in its architecture. Noble buildings should rise for public and private uses, and round these buildings parks and gardens should be created. A republic should not remain behind monarchies and empires in this artistic development. On the contrary, it should gain much from the fact that the great mass of the people feels a strong sense in ownership in all the republic's constructions."

President Roosevelt called attention to the circumstance that the architects and builders of the Gothic cathedrals were unknown. Every great nation, he said, that ever existed has been great because it had a capacity to labour for the well-being of unborn generations. Beauty and elevation of thought were the results not of working for the sake of the fee, but for the sake of the work itself. The President also gave expression to a fact of which, happily, there is evidence in the United States as well as ancient Greece or Rome. The spirit of abnegation has been manifested in more than one crisis by the American people. But it is an unfair test to expect that always the question of fees is to be ignored. American officers on land and sea expect to receive their pay and look forward to promotion as a reward. President Roosevelt's office is not honorary, although we admit that he has not received adequate reward for the service he has rendered to the States. No class of men are so often taunted with the subject of fees as architects, just as if the acceptance of them was a degradation. It would be absurd in a country like Americ where wealth is supposed to be a sign of merit, architects were allowed to erect marvels without recei ing remuneration. Why should architects alone b compelled to forget that the labourer is worthy his hire? Yet it is difficult to refrain fro concluding that, while the President expected arch tects to enrich the State with works of art, desired that they should ascend to a higher level tha ordinary mortals and ignore everything in the form lucre. The conclusion of his speech emphasised th view, for he said:—"I most earnestly hope that in th national capital a better beginning will be made tha anywhere else, and that can be made only by utilisi to the fullest degree the thought and the disintereste efforts of the architects, the artists, the men of art, w stand foremost in their professions here in the Unite States, and who ask no other reward save the reward feeling that they have done their full part to make beautiful as it should be the capital city of the Gre Republic."

President Roosevelt, as the apostle of the strenuo life, may consider it is necessary to advocate occasio ally the advantages of mortification. Moreover, he ha seen recently how ready architects were to prepa plans for beautifying Washington and they never sent a bill for their work. He may then have concluded th all architects are prepared to labour under similar co ditions. Dr. Butler, the president of Columbia U versity, was somewhat more shrewd in declaring th beauty has a tangible as well as intangible value. he pointed out, they were a young people, and it w necessary for them to go back in order to discover t masterpieces which revealed the eternal principles architectural art. They owed much to England. E it was a Frenchman who planned Washington with its infinite possibilities of beauty, and who, at Hamilto invitation, directed the laying out of a typical industr centre which legislation was to foster.

It has been maintained that the world is k together by love and hunger. M. Jules Jussera the littérateur, who is the French Ambassador the United States, asserted that two of the m ancient and keenest desires and wants of man w bread and art. Of the two, he said, art was earlier. In proof thereof he referred to the drawings animals in the French caves, which were the wonder a admiration of later artists. But the people who dr the mammoths could not make bread and had to content with snails. Mounds of snail-shells were fou in the caves, but there was no sign of an oven. Fr those early days France never ceased to be associa with art. French art is vital because it is allied to whole nation. No efforts of artists are of any avail unl they are understood by the common people. M. Jusser also claimed that French art was hospitable and t all races were welcome to the schools. He had b informed by the secretary of the Ecole des Beaux-A that of all the foreigners who visit France, the Ameri is the one who penetrates most easily and deeply spirit of the nation.

Cardinal Gibbons assumed the rôle of a prophet, he said:—"Sixty years ago the city of Washington the very modest capital of an inspiring republic; to- the city of Washington is the fair capital of a g republic; sixty years from now, through your ins mentality, the city of Washington will be the m ornate and the most beautiful capital of the grea and most powerful nation of the world." But Cardinal is a shrewd man, and he realised architects, like other artists, have a need of patr and he quoted as examples Virgil and Hor and Michel Angelo. He closed his speech b paraphrase of Daniel Webster, "The architect and patron, one and inseparable, now and for ever." Elihu Root, the American statesman, asserted that hopes of mankind for the rule of justice and liberty

ace rest largely on the development of the American
public. He announced his faith that the people
ould give expression to the best and noblest of
nerican ideals, and "they would leave to the genera-
ns that came after them an expression of their
triotism, of their aspirations, of their faith in
manity and in divinity, in structures as truly repre-
ntative of the greatness and the nobility of the
nerican nation as the cathedrals of the Middle Ages
representative of the aspirations of their builders."
other words, Mr. Root believes that architecture
ll advance step by step with the United States, and
ll attain a height which it is now impossible to
culate. There may be much imagination about the
ospect which Mr. Root drew, but words of the kind
encouraging to architects, for it is better to feel the
ssibilities of power than to be humbled by a considera-
n of the unattainable greatness of Greek and Roman
hitects.

There was a touch of despair in the address
livered by Mr. John La Farge as a decorative
inter. The painter, he said, was useless in a past
, and to a certain extent he is useless now. The
hitect when he calls for help from a painter has less
for him than for the exponent of any other form of
. The painter has but few things in common with the
hitect. But painting in a country like America has
uses. The Speaker of the House of Representatives,
o as a lawyer and a politician has gone through a
ining which must have deadened his emotions,
fessed that he never looked at the fresco in
Capitol of the United States, which is called
Vestward the Star of Empire takes its Way,"
hout the tears coming to his eyes, because he felt
t he was part and parcel of that picture, the subject
which is a party of immigrants or pioneers in a new
trict of America. If painting can operate in that way
an official politician it must be no less effective with
er men; and if moving the mind to tenderness and
is not utility, then the sooner the whole batch of
ters, poets and preachers are extirpated the better it
l be for the world.

The people of the United States endeavour to sur-
s Europeans. Although the Royal Academicians
e been dining for nearly a century and a half, it is
btful whether, on the whole, there was ever so much
pathy with art and artists exhibited as was wit-
sed at the dinner of the American Institute of
hitects. It may be assumed that the effect will not
transient. It was recognised that architecture was
most important of the arts, and that an architect was
to advise concerning the laying out of cities as well
the arrangement of single houses, and it is therefore
sible that more respect will be given to his sugges-
s in the future than was usual in past times.

A VITRUVIAN PROJECT.

would be an interesting inquiry if we could follow
the history of the writings of Vitruvius after the
of the Roman Empire. It is not unwarranted to
eve that as they were written in Latin, wherever
language was employed they met with a different
ption to the works of Greek authors. It is possible
es were preserved in many monasteries. The
rch of Rome was always desirous to erect fine
les, and in the darkest period of the dark ages it
have been supposed, by those who could have had
ractical experience of building, that in the several
s of the Roman author there were directions which
d be turned to account in happier times. It is only
sionally we are fortunate in finding any references
he work. For example, in the ninth century it is
tioned in one of the letters of Eginhard. He was
ied to one of Charlemagne's daughters. Among
offices he held in the Imperial Court was the
torship of public works. In a letter to his son
sin, who was a monk, Eginhard tells him that he is sending a list of words and obscure terms employed by Vitruvius in order that Vussin, having more leisure, would endeavour to explain them. He goes on to say:—"I think that you will be able to find a solution of the greater number of the difficulties by the aid of the coffer which the Master E. constructed with columns of ivory in imitation of antique monuments. As to what Vitruvius calls 'scenographia,' you had better consult Virgil, especially that part in the third book of his 'Georgics' where it is written, 'Already I imagine I am going to the temple with solemn pomp. Already I see the victims immolated, or the face of the scene is changed by turning and the Britons raise the purple curtains on which the ceremonies are represented.'" This passage is suggestive in several ways. We find from it that a very busy grandee who held both secular and spiritual offices, for Eginhard was an ecclesiastic, found time to engage in the study of Vitruvius and was anxious to understand the meaning of obscure and technical expressions. From the fact that Vussin, the son, was consulted, it is allowable to conclude that in the monastery of Seligenstadt Vitruvius and Roman antiquities were among the studies of the inmates. We also find that the goldsmiths used ancient buildings as models.

During the Renaissance period, after Leon Baptista Alberti had revealed the importance of Vitruvius, several manuscripts were forthcoming. It is remarkable that about 1414 one was discovered in the convent of St. Gall, which during the Mediæval period was the most important school of building on the Continent. We dare not affirm that the Roman writer's views were of more use in the construction of vaults and piers than they are to-day in the construction of steel-frame buildings. The monastery of St. Gall could not so long have retained its position unless systematic construction was followed in its classrooms, and in the courses there may have been constant reference to Vitruvius as a great Roman authority. Later in the fifteenth century Ghiberti is said to have drawn inspiration from the treatise. An edition of the works was brought out in Rome in 1486, another edition appeared in Florence ten years later, and the year afterwards a Venetian edition, while in 1511 Giocondo's illustrated edition was published. The editors were artists rather than ordinary scholars. As proof of the influence which was exercised by Vitruvius we have the report by Raphael, in which he says that the primitive huts described in the disquisition on the origin of the Doric order, in which the timbering was arranged in a certain way, were stronger than any arrangement of Gothic arches. Brunelleschi also adopted arrangements described by Vitruvius. Among others was the introduction of a fragment of an entablature between the capital and the superincumbent arch, an arrangement that occasionally still finds approval.

The artists of that time were not likely to be conversant with Latin, but there could be no difficulty in obtaining the aid of scholars to prepare abstracts of particular passages. The information derived from the treatise gave more interest to the ruins of Rome, and the ruins increased the importance of Vitruvius. The painters and sculptors appear to have adopted the Vitruvian proportions for the human figure. Drawings remain which show that even Leonardo da Vinci was willing to follow such a guide. As it was supposed that the architectural orders bore a relation to the human figure, in turn it was believed that figures as represented should be comparable in proportions to the orders.

As we have said, the artist had to depend upon such abstracts as would be furnished by priests, monks or lay scholars. The necessity for a translation was realised, and in 1542 a project of one was announced by Claude Tolomei. He was a member of a noble family, and was born in Siena. He was a scholar and a poet; his letters are invaluable for anyone who has an interest in the history of the Renaissance during the sixteenth century. He was mixed up with the politics of the period, and used to be sent on embassies whenever it was necessary to deliver a studied oration before a sovereign. Neither politics nor poetry could, however, disturb his devotion to one idol, and that was VITRUVIUS. He went to Rome for the special purpose of founding an academy, the members of which were to devote themselves to studying the works of the man who was believed to be the legislator of architecture. Throughout his writings he was glad to introduce the subject as often as possible, and a more unselfish enthusiast did not exist at the time of the Renaissance.

His Vitruvian project, which was to translate the treatise on architecture, to explain every difficult word, and to illustrate the pages in a manner which all could understand, was issued after his arrival in Rome. In it he said that experience had repeatedly demonstrated that as architecture pleased and was also useful it merited honour. Its study was worthy of the favours of great princes, since they were best able to give existence to the art which architects were capable of producing. Its remains exist in divers parts of the world, and especially in Rome. Those remains inspired several men of genius to resuscitate the noble study of architecture, in the hope that their united efforts would open careers to men who would be able in their turn to impart new splendour to the art. Now as all the fine arts, and architecture more particularly, are composed of theory and practice, it is necessary if there is to be any progress not only to study theory but to erect buildings. Several men of genius not being able at the time to put up structures have devoted all their energies to the theoretical contemplation of ancient edifices. They hoped by joining the precepts of theorists with drawings derived from the magnificent works of antiquity to attract attention sometimes upon theory and sometimes upon practice.

The works of the Greek and Latin authors who had written upon architecture having been almost entirely destroyed, there remains for us but VITRUVIUS alone, and he has written, as he himself tells us, upon all parts of the art. We intend to take, says TOLOMEI, as our models those which are most generally admired in Rome, not forgetting to speak of those found in other places, and of which it is possible to obtain information about their manner of construction and the rules of art exemplified in them. Man being disposed naturally to aid his fellows, whether citizens or strangers, the authors associated with the project believe that they will be doing work useful to the world by composing books on architecture and other subjects related to the art. It will be their duty in the first place to explain the words and sentiments of VITRUVIUS, which, it is generally acknowledged, present many difficulties owing to the novelty of the words employed, the unskilful construction of the phrases and the corruption of the text, which is more obscure than all the oracles. In the first place the Latin text will be published, and by means of long notes all the passages difficult to comprehend, and especially those relating to the rules of architecture, will be explained; aid being given by means of the figures necessary for their elucidation. All the texts of VITRUVIUS which exist in manuscript, or have been printed, differ in many ways. Reasons will be put forward for the selection of whatever has been adopted. There is no doubt that VITRUVIUS introduced a large number of figures at the end of each book. But it is impossible now to determine their character. Some figures appeared in the edition of 1511, but as they were the work of one man it was impossible to consider them all correct. The authors who will co-operate in the proposed edition, it is hoped, will be more successful. The aim is to produce a VITRUVIUS in the clearest and purest Latin, in order, if possible, that the treatise might rank with other classic writers.

According to TOLOMEI, everything connected with architecture in 1542 was practised by men—sculptors, painters, carpenters, architects—who were unacquaint
with the Latin tongue. VITRUVIUS had, it is tru
been translated for their benefit. But as the tran
lators were incompetent the treatise became mo
difficult to understand in the vulgar Roman than in t
Latin. It was proposed by the co-operators to transla
the treatise into pure Tuscan, and a vocabulary wou
also be compiled in the same dialect. A collection
Vitruvian rules would be given with examples of buil
ings. If it should be found that the rules were n
exemplified in some antique edifices, that would give
subject for reflection. It would also be possible to ha
a study of the growth of Rome, in which it would
demonstrated why certain sites were selected and w
buildings were removed. There would also be
opportunity to compare ancient and modern structur
TOLOMEI admitted that the work contemplated was t
vast and too difficult. But when it was known that
was not to be the work of one man but of a lar
number of scholars and artists, and that each one wou
have his particular work, the undertaking, in spite
its vast extent, was practicable.

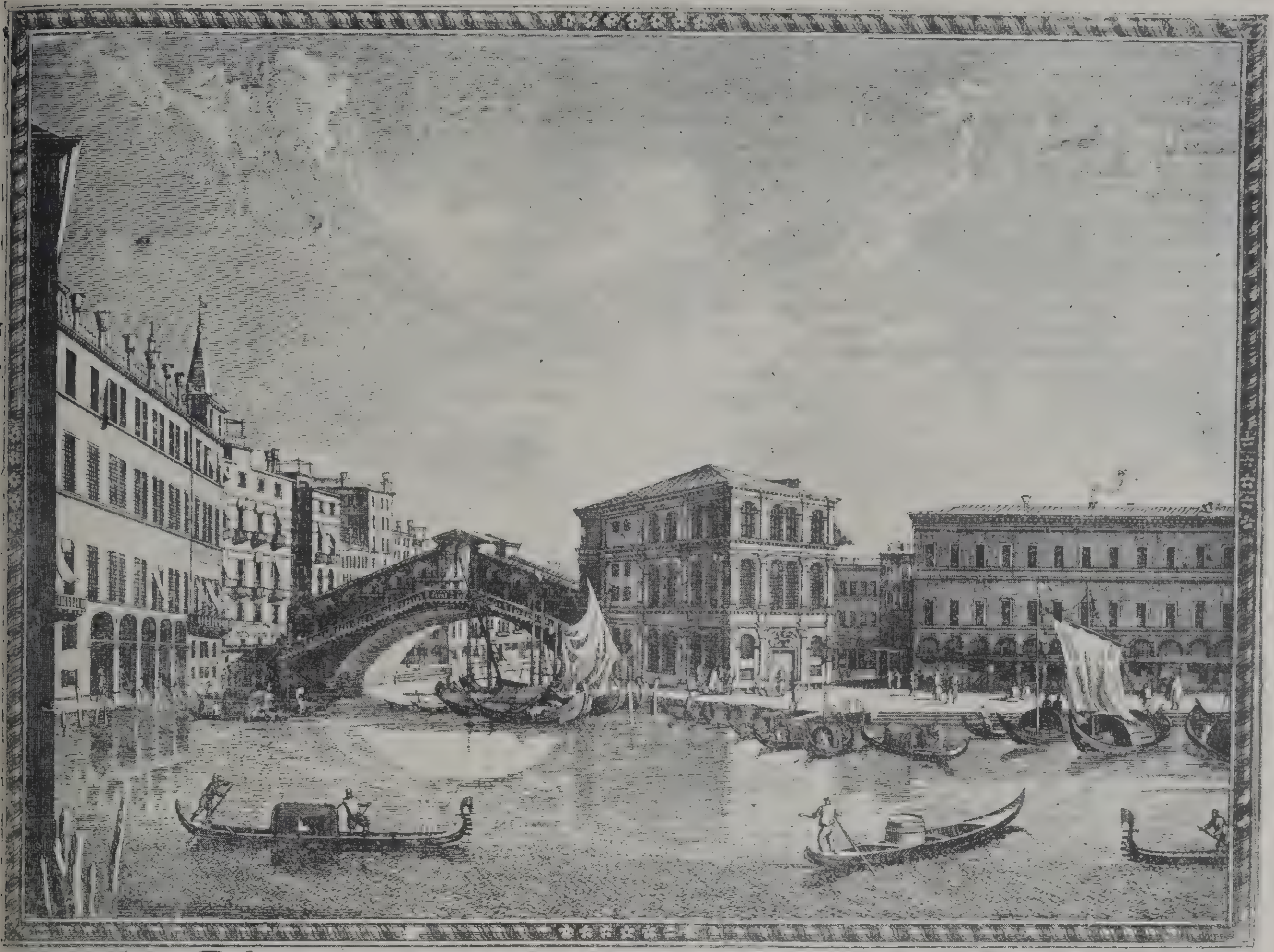
This magnificent project was worthy of the pal
period of the Renaissance. TOLOMEI was a friend
MICHEL ANGFLO and other great artists, and he cou
rely upon their aid. If the work could have been co
pleted it would have been one of the glories of th
great time, and it would have connected ancient w
Renaissance architecture in a manner which it is n
difficult to realise. TOLOMEI imagined that he cou
obtain the aid of the reigning Pope, but ALEXAND
FARNESE had too many political affairs to watch over
take up such a subject. TOLOMEI said that if ALEXAND
THE GREAT could build a city in eighteen days it w
not too much to expect that another ALEXANDER cou
bring to a termination in three years a work of an u
precedented character concerning VITRUVIUS.

TOLOMEI was doomed to be disappointed. Some
the investigations which his friends and allies had g
through may have found their way to works
VITRUVIUS and on art in general. In modern times
must regret the failure. There was a possibility
those days of removing some of the obscurities wh
are found on almost every page of the work of
Latin theorist. But in a subsequent time the spirit
vanished. We may now imagine that VITRUVIUS,
architect, had not written a line of the treatise, a
suppose it was a compilation of a later peri
TOLOMEI evidently discerned the defects, and he a
his friends were competent to indicate their
character.

CANALETTO'S VIEWS OF VENICE.—IX.

IF considered merely as an example of constructi
the Ponte di Rialto cannot be described as rema
able. It has stood for over three hundred years, fo
was completed in 1591, but the span is only 74 feet
the total length 158 feet. ANTONIO DA PONTE was
designer. It was no doubt a great improvement on
predecessor, which was a wooden drawbridge.
necessity of a communication between the two princ
islands which constitute Venice must have been
and wisely the narrowest part of the canal was sele
for the bridge. It is a common mistake to suppose
the Rialto means the bridge alone, and buildings
sometimes described as standing near the Rialto.
at one time it might well be asked in what part of
Rialto was Venice. The few refugees who came to
lagoons in the fifth century settled on one of the s
islands which were outside Venice, probably Torc
At a subsequent time the seat of the simple gov
ment was at Malamocco, of which the site at leas
known. Then, as to a safer place, they had the cou
to seize on the islands which were separated by the
channel or Rivo Alto, of which the word Rialto i
abbreviation.

About the spot where the old wooden bridge s



The West Side of the Bridge of Rialto with the adjacent Publick Buildings

many important business establishments arose. On the left side of the illustration, or the right side of the canal, we see the Fondaco de' Tedeschi, with its curious battlemented parapet. At one time the whole of the façades between the windows were adorned with frescoes by GIORGIONE and TITIAN, of which only some fragments remain. It was said of them that TITIAN imitated GIORGIONE's style. As Mr. RUSKIN remarks :—"It was a wise feeling which made the streets of Venice so rich in external ornament, for there is no couch of rest like the gondola." The building (which is now used as one of the custom-houses) belonged to the German merchants who had a hall on the site from the thirteenth century. Owing to the restorers it bears slight resemblance to the building of twenty years ago. On the right we see the building known as the Palazzo di Camerlenghi. The building served for officers connected with the Customs, but earlier the prison stood on the site, before the building which is connected with the Doge's Palace was erected. In the illustration are also shown the markets and various public offices.

If SHAKESPEARE had not written his "Merchant of Venice" with its references to the Rialto it is possible hat the bridge would not have received so much interest. t has even been stated that SHYLOCK was a tenant of ne of the shops or booths which line the roadway of he bridge. It is doubtful whether SHAKESPEARE was cquainted with Venice except through the descriptions f travellers. But he never leads his reader to suppose hat the business transactions of the city were conucted within such narrow limits. SHYLOCK speaks f the news he had heard on the Rialto, where ANTONIO rated him about his money and his usances. To the Italian and the ordinary traveller who went to Venice for business purposes, we cannot imagine he was as enthralled as Mr. RUSKIN describes "when first, at the extremity of the bright vista, the shadowy Rialto threw its colossal curve slowly forth from behind the palace of the Camerlenghi; that strange curve, so delicate, so adamantine, strong as a mountain cavern, graceful as a bow just bent; when first, before its moonlike circumference was all risen, the gondolier's cry, 'Ah! Stali,' struck sharp upon the ear, and the prow turned aside under the mighty cornices that half met over the narrow canal, where the splash of the water followed close and loud, ringing along the marble by the boat's side." These words should be taken as expressing Mr. RUSKIN's own delight. He was well acquainted with all parts of the district represented, and the church of St. James is not far from the bridge where he discovered the memorable inscription, "Around this temple let the merchant's law be just, his weights true and his covenants faithful."

In 1645 the Rialto was visited by JOHN EVELYN, who recorded the following notes in his diary :—

> The first publiq building I went to see was the Rialto, a bridge of one arch over the grand Canall, so large as to admit a gally to row under it, built of good marble, and having on it, besides many pretty shops, three ample and stately passages for people without any inconvenience, the two outmost nobly balustred with the same stone; a piece of architecture much to be admir'd. It was evening, and the Canall where the Noblesse go to take the air, as in our Hide-park, was full of ladys and gentlemen. There are many times dangerous stops by reason of the multitude of gondolas ready to sink one another; and indeede they affect to leane them to one side, that one who is not accostom'd to it would be afraid of over setting. Here they were singing, playing on harpsicords and other musick, and serenading their mistresses; in another place racing and other pastimes upon the water, it now being exceeding hot.
>
> Next day I went to their Exchange, a place like ours, frequented by merchants, but nothing so magnificent; from

thence my guide led me to the Fondigo di Todeschi, which is their magazine, and here many of the merchants, especially Germans, have their lodging and diet as in a college. The outside of this stately fabric is painted by Giorgione da Castelfranco, and Titian himself.

Hence I pass'd through the Merceria, which is one of the most delicious streets in the world for the sweetnesse of it, and is all the way on both sides tapistred as it were with cloth of gold, rich damasks and other silks, which the shops expose and hang before their houses from the first floore, and with that variety that for neere halfe the yeare spent cheifly in this City I hardly remember to have seene the same piece twice expos'd; to this add the perfumes, apothecaries' shops, and the innumerable cages of nightingales which they keepe, that entertaine you with their melody from shop to shop, so that shutting your eyes you would imagine yourselfe in the country, when indeede you are in the middle of the Sea. It is almost as silent as the middle of a field, there being neither rattling of coaches nor trampling of horses. This streete, pav'd with brick and exceedingly cleane, brought us thro' an arch into the famous Piazza of St. Marc.

It is still possible to follow the same winding road which attracted Evelyn between the bridge and the Piazza of St. Mark. In no part of Venice do the houses appear closer and the arrangement more confused than in the vicinity of Da Ponte's arch. Many of the enlightened citizens must now regret that at the beginning of the sixteenth century the project of Fra Giocondo, the Dominican monk, was not realised. After the great fire which destroyed the wooden bridge as well as the storehouses where the most valuable goods were accumulated the senators invited Fra Giocondo to advise them. According to Vasari, he proposed to occupy the land which lay between the canal of the slaughter-houses and the canal of the corn-magazines. On this was to be erected a great edifice which would be surrounded by a shore or quay, and which would be used for markets. Within would be a series of shops with fine workshops above them as well as magazines. Importance was to be given to woven fabrics or drapery, silk and costumes in general. There was to be a large piazza with a loggia around it, for the use of foreign merchants and those who traded with them. Here were to be collected also the shops of the bankers, goldsmiths and jewellers. In the centre of all was to be a church dedicated to St. Matthew, which merchants and traders were expected to attend in the morning. Vasari says that those who saw the design declared that nothing more beautiful could be conceived, "nor could the highest inspiration of genius in the most exalted artist imagine anything more magnificent, more perfectly ordered, and in every way more admirable than it would have been." Interest was as powerful in Venice as in other countries. There was a noble who had employed an architect known as Zanfragnino or Scarpagnino. Through his influence this man was engaged and, as Vasari said, made the design for that mass of confusion which is still to be seen, and which was no sooner executed than it was regretted as an absurdity. Giocondo was so much annoyed he left Venice, and no persuasion could induce him to return.

CHEAP COTTAGES EXHIBITION.

THE following prizes have been awarded to the exhibitors of cottages and designs at the Garden City Exhibition at Letchworth. The primary object of the exhibition was to secure the erection of the best 150*l.* cottage, and for this a first prize of 100*l.* was offered.

(1) *Cottages.*

Class 1.—Cottage to cost not more than 150*l.*

First Prize, 100*l.*—No. 14. Messrs. Green Bros., Whittington, near Chesterfield. Architect, Mr. Percy Houfton, Furnival Chambers, Chesterfield.

Second Prize, 50*l.*—No. 23. Messrs. Bennett & Bidwell, Letchworth.

Third Prize, 25*l.*—No. 35. Messrs. Potter & Co., 66 Victoria Street, S.W.

Class 2.—For the best pair of five-roomed cottages (including scullery or kitchen-scullery) erected at a cost not to exceed 300*l.*

First Prize, 50*l.*—No. 35. Messrs. Potter & Co., 66 Victoria Street, Westminster.

Second Prize, 30*l.*—No. 70. Mr. A. H. Clough, Burley, Ringwood.

Third Prize, 20*l.*—No. 67. The Copartnership Tenants' Housing Council, 22 Red Lion Square, W.C.

Class 3.—For the best group of three or four cottages, no one cottage to contain more than six rooms, including scullery, and erected at a cost not to exceed 35*l.* per room.

A prize of 25*l.* is awarded to No. 01, Mr. Geoffrey Lucas, A.R.I.B.A., 2 Vernon Place, Bloomsbury Square, W.C., and 23 Brand Street, Hitchin, Herts.

Class 4.—For the best detached cottage, or pair of cottages, each containing not more than six rooms, including scullery, and erected at a cost not to exceed 35*l.* per room.

A prize of 100*l.* is awarded to No. 79, Mr. A. Randall Wells, 25 Cornwallis Gardens, Hastings.

In addition the following prizes have been awarded:—

Prize of 100*l.*, offered by anonymous donor for the cheapest cottage for value given:—

Nos. 69-71. Mr. A. H. Clough, Burley, Ringwood.

Prize of 50*l.*, offered by the Associated Portland Cement Manufacturers, for the best cottage built of cement concrete:—

No. 58. The Concrete Machinery Company, 18 Water Street, Liverpool. Architect, Mr. G. Fraser.

Prizes for wooden cottages. A wooden cottage is considered to be one built of timber between the roof and the foundations:—

First Prize, 50*l.*—No. 80. Mr. F. W. Troup, 14 Gray's Inn Square, W.C.

Second Prize, 25*l.*—No. 81. Messrs. Smith & Brewer, 2 Gray's Inn Square, W.C.

(2) *Designs.*

Prizes have been awarded for the best designs of cottages, &c., on the same lines as the cottages themselves. These prizes were awarded as follows:—

Class 1.

First Prize, 10*l.*—Messrs. Bennett & Bidwell, Letchworth.

Second Prize, 5*l.*—Mr. W. A. T. Carter, 15 Waldemar Road, Wimbledon.

Class 2.

First Prize, 10*l.*—Mr. W. R. Mosley, 146 High Street, Slough.

Second Prize, 5*l.*—Mr. W. Marshall, Hatfield.

Class 3.

First Prize, 10*l.*—Mr. L. F. Crane, Old House, Holland Street, Kensington.

Class 4.

10*l.*—Mr. G. Lucas.

The special prize of 10*l.*, offered by Mr. H. G. Elwes, F.R.S., for the best design and specification of a wooden cottage, to be constructed entirely of English timber, has been awarded to the design submitted conjointly by Mr. Detmar Blow, of 9 King's Bench Walk, Temple, and Mr. Ernest Gimson, of Daneway House, Sapperton, Glos.

The judges' report is signed by Octavia Hill, W. R. Lethaby, J. C. McCowan, Robt. Weir Schultz, Thackeray Turner, G. Sims Woodhead and Harriet Yorke.

SHEARING STRESSES IN MASONRY.

WHILE the action of shearing stresses in metals has been as fully recognised as that of tension and compression since the establishment of the theory of stresses in solid bodies, they have had practically no place, says the *Engineering Record*, in the rational treatment of masonry structures until the theory and tests of reinforced concrete beams compelled their recognition. In such masonry masses as suspension bridge anchorages, abutments of arches and even in retaining walls, shearing stresses must always exist, and sometimes with comparatively high intensities. The same observation is certainly not less applicable to some portions of high masonry dams. In the latter case shearing stresses have always been allowed for under the head of "friction." In most of the standard treatments of high masonry dams one of the prominent conditions of stability has generally been so stated as to indicate that at no horizontal section of the dam shall the obliquity of the resultant pressure ever be greater than the angle of repose of masonry on masonry, the tangent of that angle being prescribed at about 0.6. Although that has been a general feature of practice in this particular line of construction it is thoroughly irrational, and it is rather strange that so many engineers have sanctioned it. As a matter of fact there is no horizontal joint in any properly built high masonry dam, and consequently there can be no possible action of friction until such a joint is made. Hence, before friction can act, an approximately horizontal joint or surface of action must be made by shearing the masonry along that surface. The actual condition resulting from that provision of a specification is the virtual requirement that masonry shall possess a shearing resistance not less than about 0.6 of the resultant normal pressure, and there is little or no first-class masonry used in high masonry dams at the present time which will not fully meet this requirement.

In spite of these conditions a considerable number of engineers experienced in large masonry works have, in the past, not only declined to recognise the shearing resistance of masonry, but have asserted that its existence was too uncertain to make it desirable to give it any value. No less an authority than the late Mr. G. Bouscaren, about ten years go, treated with contemptuous jocularity the suggestion hat shearing should be considered in a mass of anchorage masonry for a proposed large stiffened suspension bridge. Yet it may be stated with perfect truthfulness and without the least exaggeration that no mass of masonry and especially no plain or reinforced concrete beam could stand under severe duty unless its shearing resistance was a large proportion of its compression resistance.

There are few tests of either natural or artificial stones n compression whose results do not furnish a reasonably ccurate basis for computing the ultimate shearing resistnce. Indeed, the so-called failures by compression of ubical or cylindrical test specimens of nearly all good uilding stones, whether natural or artificial, are actually hearing failures. Those who have conducted compression ests of stone have many times observed the interesting orms in which the fragments are separated in the fractured pecimens. Wedge-shaped pieces are usually sheared off ong planes making angles of about 45 degs. with the rection of the applied loads, precisely as the theory of resses in solid bodies indicates that they should. The anner of holding test pieces prevents these shearing anes from making the exact angle of 45 degs., which eory indicates to be the angle of maximum shearing tensity, but the divergence is small. The crucial fact is e failure by shear, although the maximum test load is corded in pounds per square inch of compression. It is is persistent neglect to record the failure under its true me which has so long obscured the perfectly obvious tion of shearing stresses in masonry.

The primary principles of analysis of tension and comession in any material indicate that shearing stresses ist with varying intensities throughout the entire volume the piece. An analysis equally clear and but little less nple demonstrates that shearing stresses also exist roughout the entire mass of a beam carrying a transverse ıd. In other words, every masonry beam, including those natural stone or concrete, whether reinforced or not, must stain shearing stresses frequently of comparatively high ensity. At the ends of simple supported beams these ensities of shear are sometimes so high that they cause lure. In some recent tests of reinforced concrete beams ts failure by end shearing was stated to be a failure by comssion in the authentic accounts of the tests. The preling obscurity as to shearing stresses in masonry led to oneous views as to the cause of failure, and the statent was fortified by the observation that the pulverisation the failed material proved the failure to be one of npression. A little experience only is required in testing cks or cylinders of stone to show that the failed material is always finely divided along the plane or surface of mate shearing. The movement of two masses of stone each other along a sheared surface is bound to pulverise material. If the stone is weak there may be a large ount of the pulverised material, and it is no exceptional e to find the greater part of the test specimen demoralised his manner.

Furthermore, it is known that the neutral surface of a bent beam is subjected to the greatest intensity of shear in the entire beam, that intensity having its maximum value at the ends. Every section of the beam parallel to the neutral surface is also subjected to shear, but with a less intensity than that of the neutral surface. Finally, every transverse section of a concrete beam is subjected to a shear with an intensity at the neutral axis equal to three halves the mean.

These considerations show conclusively that the shearing stresses in every masonry mass and in every stone or concrete beam play a part not less important than that of the compressive stresses. They show, further, that the intensities of these shearing stresses may be subject to computations practically as exact as those which determine compressive intensities. It is obvious, therefore, that the ultimate shearing resistances of various grades of masonry and stone should be as carefully determined by tests as those of compression, and, finally, that the consideration of shearing stresses should govern the design of masonry structures with just as much force and completeness as the consideration of the stresses of compression.

GLASGOW COMPETITIONS.

A CORRESPONDENT of the *Glasgow Herald* writes:—Having my attention drawn to the present exhibition of competitive drawings for the new Mitchell Library, I find on inquiry that the successful architect is a late assistant of our city engineer, and on further inquiries and searches I discover that for a number of years back in the architectural competitions connected with the Corporation the successful architects have been principally Mr. W. A. B. M'Donald's present or late assistants and the Inverness architect. This is evident from the following list of competitions and their successful architects:—

Kennyhill Workmen's Dwellings.—R. Horn, at present in the employment of W. A. B. M'Donald, city engineer.

Springburn Public Halls.—W. B. Whittie, late in the employment of W. A. B. M'Donald, city engineer.

Springburn District Library.—W. B. Whittie, late in the employment of W. A. B. M'Donald, city engineer.

Hutcheson District Library.—1, J. R. Rhind, Inverness; 2, Jn. Fairweather; 3, T. Gilmour, at present in the employment of W. A. B. M'Donald, city engineer.

Parkhead District Library.—1, J. R. Rhind, Inverness; 2, Jn. Fairweather.

Bridgeton District Library.—1 and 2, J. R. Rhind, Inverness.

Maryhill District Library.—J. R. Rhind, Inverness.

Govanhill District Library.—J. R. Rhind, Inverness.

Woodside District Library.—J. R. Rhind, Inverness.

Dennistoun District Library.—J. R. Rhind, Inverness.

Townhead District Library.—1, Jn. Fairweather; 2, T. Gilmour, at present in the employment of W. A. B. M'Donald, city engineer.

Pollokshields District Library.—1, T. Gilmour, at present in the employment of W. A. B. M'Donald, city engineer; 2, W. B. Whittie, late in the employment of W. A. B. M'Donald, city engineer.

Hamilton Workmen's Dwellings.—R. Horn, at present in the employment of W. A. B. M'Donald, city engineer.

Mitchell Library.—1, W. B. Whittie, late in the employment of W. A. B. M'Donald, city engineer; 4. J. R. Rhind, Inverness.

The assessors of the above competitions were W. A. B. M'Donald, city engineer, and the President of the Institute of Architects, with the exception of the Hamilton competition, when W. A. B. M'Donald alone assessed. These competitions have been open to all architects, and have been well responded to by the leading architects all over the country.

Mr. William Graham Scott, of the firm of Messrs. W. G Scott & Co., architects and surveyors, Workington, who died on April 29 last, aged sixty-seven years, left estate of the gross value of 5,080*l.* 14*s.* 5*d.* Probate of his will has been granted to Mr. R. D. Coulthard and Mr. H. Oldfield, architects, both of Victoria Buildings, Workington, to each of whom for their services he bequeathed 30*l.* and 5 per cent. commission for work done under the trusts of his will. He desired that a stone costing not more than 30*l.* and designed by Mr. Oldfield should be erected to his memory.

NOTES AND COMMENTS.

The Ecclesiastical Commissioners possess a large area of the suburbs of Llandudno. As the town is a favourite with holiday makers and invalids, it is likely to grow. The Commissioners have sold a part of their estate to a building company. There is one drawback amidst many advantages, and that is that the drainage is not carried out to a sufficient distance in the sea. Another is that the pipes for the surface-water drainage are visible. The Ecclesiastical Commissioners intend to have a change. The arrangements for the purpose are sure to be carried out in a friendly way. It is in the interests of the town that more residents shall be attracted, and that cannot take place if there are any doubts concerning the drainage. At present the Ecclesiastical Commissioners could put an end to the existing system. But they are willing to grant very liberal terms if all the drainage apparatus is concealed from view and there is an extension of the outlet pipes.

It is generally considered that the Bibliothèque Nationale, in Paris, contains more books than any other library in the world. In the catalogue there are about two millions of entries, but the number of volumes is believed to reach three millions. Then there are manuscripts, maps and engravings, besides coins and medals. The collections are constantly increasing. The accommodation does not expand in a corresponding proportion, and it is calculated that in less than twenty years room will not be found for any addition to the collection. M. Henri Bouchot, who is one of the conservators of the library, has treated the subject in detail. He has arrived at the conclusion that the present site is far too restricted, and that it is imperative to make arrangements for a removal of the collections. It might be supposed there would be a difficulty in finding a site, but M. Bouchot believes a most desirable one can be utilised without cost. He, in fact, proposes to make use of the site of the Tuileries for the Bibliothèque Nationale. Everyone knows that the ground which was coveted for several purposes is now arranged as a garden, and the court of the Louvre is visible in a way which was not possible when the palace stood there. M. Bouchot desires to have the whole of the space occupied by the Tuileries utilised, or, in other words, to have the Pavillon de Marsan and the Pavillon de Flore connected as formerly. In that way he considers there would be room for all the departments. There would be, moreover, many advantages in having the Louvre and the library forming one group. The important question is, "Where is the money to come from?" M. Bouchot estimates the cost at 50,000,000 francs, or 2,000,000*l.* He suggests that the State should begin to put aside two or three million francs each year towards meeting that sum. But he depends on a colossal lottery for raising the greater part of the funds. He has also faith in the munificence of individuals. The question is a grave one and must be encountered sooner or later by Frenchmen.

The new regulations of the Prussian technical schools are not favourable to foreign students. All encouragements to them have ceased. In the technical high schools there are to be henceforth three divisions, viz. "regular attending students," students for lectures only and lecture visitors. As regular students only those will be accepted who really possess the knowledge necessary for being admitted into any university, and which has been acquired at a German "gymnasium," a German "Oberrealschule," a Bavarian "industrial school," or the Saxon Polytechnic Academy at Chemnitz. As to foreigners, the ministry of ecclesiastical affairs and public education will decide whether their scholastic erudition is sufficient to admit them. German subjects, other than Prussian, will be admitted under the same conditions as Prussian subjects. Students will be admitted to hear the lectures only (*i.e.* without privilege of being graduated by the board of examiners) who, although not possessed of the education necessary for being admitted into a German university, have acquired the schooling necessary for performing only one year's military service. The admission of such students is entrusted to the rector of the technical high school. Persons may be admitted as lecture visitors to the lectures or demonstrations who are not eligible to either of the two classes just mentioned. The admission of lecture visitors will be granted by the rector with the consent of the proper professor. Setting aside the lecture visitors, only such foreigners will be admitted who are capable of complying with the German educational requirements, or who are in possession of an equivalent foreign certificate of learning. Compensation will no doubt be found by English students in technical schools and colleges in this country.

It is a characteristic in human nature, at least of late years, to magnify defects in construction. The fall of a brick is sometimes supposed to portend the downfall of a house. It is well known also that the slightest noise in a building often leads to a panic and a loss of life. It is therefore possible that the subsidence of a part of a quay wall at Antwerp, of which so much has been made in the newspapers, means no more than a limited amount of injury. Imagination can easily magnify the danger and make it appear that Antwerp is about to be swallowed up by the Scheldt and that its trade would, of course, disappear. It should be remembered that a city in such a position is subjected to dangers from which Brussels, Louvain or Malines are exempt. The ground about Antwerp is well adapted for agricultural purposes, but care has to be taken in dealing with it when used as foundations. The works which are supposed to be in danger go down to a bottom which was believed to be secure. Immense beds of concrete were laid by means of caissons, sometimes to a depth of over 50 feet. In a work of such extent there may be unexpected settlements and consequent dislocation of the quay. But the Flemings are too accustomed to deal with subaqueous work to allow any failure which may have occurred to extend beyond a limited distance.

Are we to suppose that laws of etiquette are insisted on by some varieties of building materials? A case has occurred in the United States which may be an indication of some law which regulates the use of materials, and which may be called "good form." Concrete being now universally used, it is sometimes desired to cover it with asphalte. But asphalte seems to have an antipathy for concrete. A contractor at Boston, knowing this fact, thought that he could turn it to account. Accordingly he covered some centres with asphalte, and the concrete was laid over it. But to his surprise he found that the two materials had united so closely it was difficult to separate them. That may have served a special purpose, but what is generally desired in construction is that asphalte should allow itself to be made the upper stratum in order to add to the endurance of the concrete.

ILLUSTRATIONS.

CATHEDRAL SERIES.—WAKEFIELD: NORTH CHOIR AND NEW PART OF ORGAN.

MUNSTEAD GRANGE, SURREY.

DESIGN FOR MUNICIPAL BUILDINGS, LAMBETH.

THE THURLAND HALL, NOTTINGHAM.

PUGIN ON STAINED GLASS.

T was considered to be a peculiarity of Augustus Welby Northmore Pugin that he was not satisfied with pre- ring drawings for buildings. He also had mastered all arts and crafts which were connected with them. His st publication consisted of illustrations of Mediæval niture and metalwork. Afterwards the stained-glass ndows which were required for his churches were pro- ced under his direction. The following account by him the process employed for staining glass is not much own to students of art, but is worth attention as express- Pugin's ideas on a favourite subject :—

The Process of Staining Glass and the Meaning of certain hnical Terms connected with the Art.—Glass staining con- ts of three processes, which may be classed as follows :—

First, tables of glass, the whole substance of which is ined. The colours so produced are technically termed -metals, on account of the colouring matter being intro- ced into the pot while the metal or glass is in a state fusion; this sort of glass has a much richer appearance d is of a far deeper tone of colour than any simply amelled on the surface, with the exception of a ruby or ght red, which is always produced by an enamel on or ween pieces of white glass.

Second, the application of enamels, which are inserted the surface of the glass, portions of which are hollowed by the action of emery and water to receive them. is method is extremely expensive owing to the great our required, and is only resorted to for the production rich isolated ornaments on a ground of different colour.

Third, the colours laid on the surface of the glass and elibly fixed by the action of fire. This is the most simple cess, and when properly applied is extremely effective; but hole window executed in this manner would never produce deep rich tones so admirable in the ancient glass. This ention, by which many tints could be produced on the ne piece of glass, was not known till the decline of the and contributed in no small degree to a miserable style window painted on square panes, which I shall describe re fully hereafter. This method, however, is extremely ful in producing shadowing and colour on heads, remities, distant backgrounds and various portions of a idow where gradual changes of tints are required.

The Manner of preparing a Stained-Glass Window.—After accurate full-sized drawing, which is called a cartoon, been prepared, it is extended on a flat surface, and the st proceeds to reduce the different pieces of glass which to compose the intended window to their required shapes the means of a diamond cutter and grozing tool, till y cover their destined places on the cartoon, allowing icient space between the joints for the insertion of the d bands by which they will be finally fastened together. lighter portions of the subject, such as flesh, clouds, te diapered drapery, &c., will be thus prepared in white s, while the richer tones will be cut out of pieces of pot- al. The whole glass then receives a light greyish wash r the upper or inner side, which is termed frosting, ng an opaque appearance to the glass, and forming at same time an excellent ground for tracing the required s and shadowing in brown colour, and furnishing also means of scraping out the brilliant lights, which could be produced unless the general surface of the glass was dued in tone. The various pieces being elevated against light, with the cartoon behind them, the lines marked erneath are traced on the frosted surface of the glass a brown opaque colour, which is used also for shadows, the lights are afterwards scraped out of the frosting a sharp-ended hard piece of wood. The tints which to be applied to the white glass in the manner of the d process are then laid on the reversed side of the ted glass, and are prepared in such a manner that the y of the colour evaporates in the furnace, whilst the penetrates the surface of the glass. After a sufficient ntity of glass has been thus prepared, it is laid on iron ves in thin beds of lime within a furnace properly con- cted, and there continues in a white heat for a given , in the regulation of which some judgment is required, a few minutes of inattention the labour of weeks may destroyed. When taken out the brown lines and lowing, as well as the frosting, will be found so firmly it on the glass as to have become equally hard and ible, while the tints on the opposite side will have pene- d the surface and mingled with the substance of the s. These pieces are afterwards firmly united by narrow is of grooved lead, soldered at the joints and cemented esist the action of weather.

Any number of these pieces thus united between the stone mullions of a window, either extending the whole height or divided by transoms, is called a light. They are fixed in the stonework by a groove cut in the mullions called a glass-rickle, and lead bands are soldered to them and twisted round iron bars fixed across at regular intervals. These bars are often bent in form, so as not to interfere with the outline of the design.

The diamond-shaped glass, commonly used in filling up windows, is called quarry glass, and in old English writers these small panes are termed "quarrels"—terms evidently derived from the French word *quarré*, referring to their form, though custom has long sanctioned the application of the words to hexagonal and variously shaped pieces of glass when used in filling up a light.

The grozing-tool is a small piece of iron with notches on one of its sides of various widths, by which the glass is nipped and broken off by little and little to its required shape. This was the only instrument, excepting a sort of shears anciently used for cutting glass, as the application of the diamond to this purpose was not known, and even at present many irregularly-shaped pieces of glass can only be fashioned by grozing. Both operations were performed with the glass held under the surface of water to prevent the particles from flying, and were attended with immense labour and considerable loss by breakage.

I have thought it necessary to enter into an explanation of these seemingly trifling details before commencing the main portion of my subject, as it will enable you the more readily to follow and comprehend the remarks I am now about to offer.

Whether the ancients were acquainted with the use of glass at all as applied to architecture has been a theme of much inquiry among antiquaries, and although the strictest researches have been made on the subject, it still remains a matter of mere speculative opinion, on which the learned are greatly divided. St. Jerome, who flourished during the latter part of the fourth century, is the first writer who alludes to glass windows. The passage I allude to is as follows :—

> Fenestræ quæ vitro in tenues laminas fuso abductæ erant.

Gregory of Tours, 200 years later, relates that in 525 a soldier of the army of Theodoric entered the church of St. Julien of Brioude, in Auvergne, by a window, of which he had broken the glass.

These documents do not lead us to suppose that the glass alluded to was stained, but simply of that coarse white sort which is yet occasionally to be met with in very ancient buildings.

Fortunatus, Bishop of Poictiers, who wrote during the latter part of the seventh century in some verses descriptive of the ancient cathedral of Paris, seems decidedly to refer to something more than mere plain glazing :—

> Prima capit radios vitreis oculata fenestris,
> Artificisque manu clausit in arce diem,
> Cursibus auroræ vaga lux laquearia complet,
> Atque suis radiis et sine sole micat.
> (Fortunat. lib. 3, de Eccles. Paris.)

These last words, "et sine sole micat," could not have been applicable to anything but stained windows, and we may reasonably suppose that even at that remote period the art was practised in France. Indeed, there is no doubt that the honour of the invention of glass is due to that country; and we find that both St. Wilfred, Archbishop of York, who died in 709, and St. Benedict, Bishop-abbot of Wearmouth, sent thither for artificers to glaze the buildings which they were erecting in England. Of St. Wilfred it is written, "Artifices lapidearum* et vitrearum fenestrarum primus in Angliam ascivit."

Again of St. Benedict Biscop :—

> Misit Legatarios in Galliam, qui vitri factores,
> Artifices Britannis hactenus incognitos,
> Ad cancellandos ecclesiæ porticumque et
> Cœnaculorum ejus fenestras, abducerent.

I consider these as conclusive proofs that France possessed the art of glazing previous to any other country, for St. Benedict, who is known to have made five journeys to Rome, and to have brought masons from thence to assist in the erection of his monasteries, would certainly have procured his glaziers from the same city had the art been practised there.

The fabrication of glass appears to have made great progress during the eighth and ninth centuries. Still, we have no document or existing example to prove that what may be properly termed painting on glass was then understood, and the windows which are spoken of by the early historians in such terms of admiration most probably consisted of pieces of various colours without any ornament delineated on them, but forming a pattern or sort of mosaic by their arrangement. Of this, which may be termed the first style of glass, no example is known to exist.

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* The word "lapidearum" does not refer in this place to stonecutters, but makers of a transparent stone or talc anciently used in glazing.

Although it is impossible to set down a precise period for the invention of glass-painting, and of fixing indelibly by the action of fire the lines and colours laid on the surface of the glass, we may be certain that it was not brought to any degree of perfection prior to the twelfth or early part of the thirteenth century. The windows then produced consisted of white glass, covered with delineations in brown lines of flowers, foliage, &c., interspersed with bands of coloured glass, altogether forming rich and varied patterns.

Of this second style of window many magnificent examples are yet to be found in the apsis of Chartres Cathedral, in the church of St. Stephen in the same city, the cathedral of Rouen, the north transept of York Minster, north transept of Lincoln, Chetwode Church, Buckinghamshire, and many other churches both in England and on the Continent. Salisbury Cathedral was entirely filled with stained windows of this description, of which only a few specimens remain, for during the destruction of this church, conducted by the detestable James Wyatt, and which was most impudently termed a restoration, workmen were actually employed to break out the stained glass from its lead bands for the purpose of melting the metal, after which the shattered fragments were thrown away in heaps.

This style was succeeded, or, to speak more properly, accompanied (for specimens of both sorts are to be found nearly of the same date) by another of a far richer description, in which white glass was nearly excluded and the whole space filled by a mosaic of the richest colours, disposed in very varied patterns and surrounding subjects of sacred history in small compartments of different forms. All these subjects were drawn in outline, and although harsh in execution, were often full of grand simplicity in their design, and the effect of these windows is infinitely richer than any produced by the later style of windows, when stained glass had considerably advanced both in regard of purity of drawing and mechanical skill. This, which is the third style of glazing, I illustrate by a portion of a window of Chartres Cathedral. You will here remark the characteristic features of the glass of this period which I have previously mentioned—great richness of colour, subjects small with brilliant ground, and no shadowing of the figures further than what is produced by lines. Of this description, the following windows are the most remarkable examples:—Those of the nave, transepts and choir of Chartres Cathedral, which are of the most surpassing beauty. They are eighty in number, exclusive of three immense rose-windows all filled with most ingenious and complicated patterns, in which are introduced histories taken from the Old and New Testaments, legends of saints, images of angels, prophets, apostles, martyrs and confessors. There are also representations of prelates, kings, and many noble and ecclesiastical personages of the time, as also the humble artisans of different trades and crafts. These were the persons by whose pious contributions the openings left by the light and lofty masonry of this stupendous church were filled by their gorgeous and dazzling decoration. A gigantic work, the cost and labour of which must have been so enormous that it could only have been accomplished by the ardent devotion that filled the breasts of all classes during those ages of faith.

Among the benefactors depicted in this glass we can recognise the following distinguished persons:—The Count de Clermont and Beaulieu; Matilda, Countess of Boulogne, on her knees praying; Jean, Duc de Bretagne; Thibaut, Comte de Blois; the king, the pious and glorious St. Louis, holding a reliquary in his hand. The royal arms of Francc are blazoned by his side, and near him is his son Prince Louis, Aumery, Count of Montfort, Constable of France. He is represented on horseback near St. Louis, his royal master. Peter of Courtenay, who perished in the Holy Land. He is shown kneeling before a cross, indicating his great devotion to the sacred cause in which he so gloriously fell. There are a whole host of others, whose names and titles are lost in the obscurity of antiquity, but among the ecclesiastics one figure is depicted kneeling vested in an alb with a maniple on his arm and holding a paten in his hand, round which is this inscription, "Robertus de Baron Carnotensis Cancellarius," by whose munificence the window executed in which he is represented.

In other windows, equally splendid, are artisans a merchants, labourers, dyers, drapers, saddlers, wheelwrigh coopers, shoemakers, basketworkers, vintners, bakers, fi mongers and all classes of operatives and tradesmen, w combined together in ancient days, not to defy laws a order, but to assist in erecting and beautifying the m glorious churches of Europe.

The eastern windows of the apsis of Rouen Cathed are precisely of the same date, and very similar both design and execution to those at Chartres. Indeed there great reason to suppose that the same artist was engaged both, for on a label may be traced the words "Cleme Vitrearius Carnotensis." Among these windows the o that merits the most particular description is situated the Gospel side of the choir, and represents the who legend of St. Julian the hospitaller, patron of the boatm and fishermen of Rouen, by whose pious contributions t window was erected, and who are represented in the low subjects following their laborious and dangerous occup tions.

The windows of the choir and eastern end of Canterbu Cathedral were anciently filled with the richest glass of th third style, among which was a complete history of th glorious saint and martyr, St. Thomas; but of these precio memorials few have escaped the savage fanaticism of t Puritan faction.

At Paris most admirable windows of this style are to found in a building called the Sainte Chapelle, erected St. Louis for the reception of many sacred relics broug from the Holy Land.

The great rose windows of Notre-Dame, each of whic measures 120 feet in circumference, are also glazed in th style, with many most curious subjects and devices, amon which are the twelve signs of the zodiac, with the agr cultural labours peculiar to each month of the year. Th best English specimens of this style of glazing after those have mentioned in Canterbury are to be found in the tran septs of Lincoln Cathedral.

There are also some fine examples existing in th cathedral church of Lyons, the Dom at Munich, and also i the cathedral of Berne in Switzerland.

It may be proper to remark that the glass of this perio is exceedingly thick, and in pieces of small dimensions p together with strong bands of lead. It appears that the glas at that time was blown instead of being run, and the ri only of each plate could be used, as the centre was raise into a thick knot where the blow-pipe had been used.

The art of enamelling two separate colours on the sam piece of glass was not understood at this stage of the art and the tints, instead of presenting an even surface of colou were frequently of a streaky appearance and much ben All the pieces were reduced to the required shape by th labour of the grozing tool.

(*To be concluded.*)

BY-LAWS REFORM.

ALTHOUGH the Bill intituled "An Act to amend th Public Health Acts" did not reach the House o Commons, the inquiry before the select committee of th House of Lords will enable the public to realise what i desirable. The objects of the Bill were as follows:—

Clause 1: Act to be construed with the Public Healt Acts, and to apply co-extensively with those Acts Clause 2: To exempt buildings sufficiently isolated fron the operation of existing and future building by-laws Clause 3: To provide against alterations of buildings erecte under the exemptions provided by clause 2. Clause 4 To render exempted buildings subject to by-laws relatin to sanitation. Clause 5: To empower the Local Govern ment Board, upon representation by ratepayers, to disallov by-laws after confirmation where any such are foun unsuited to the district in respect to which they apply or t operate contrary to the public interests.

The following evidence was given by Mr. Lacy William Ridge:—

Chairman (*Lord Allerton*).

You are a Fellow of the Royal Institute of British Architects and surveyor for the Diocese of Chichester which is in the county of Sussex?—Yes, the whole o Sussex.

You have read the Bill and you appear in support of it I understand?—Yes.

You have certain reasons for supporting it ?—Yes.

Do you think the present system interferes with liberty e use of materials in building unnecessarily ?—Yes.

You think it stops invention and unnecessarily adds to ense, and so on ?—Yes.

Do you refer to any cases where, in your experience, have had difficulties ?—I have had some difficulties, they have been on matters of detail. I know that the eral tendency of the thing is to cause a good deal of ation, that is, the making of a great number of un- essary drawings and a good deal of unnecessary corre- idence, which either the client has to pay for or which architect has to do without being paid for. I know that s drawings and specifications are reviewed by persons mpetent really for that purpose in the great majority of l districts; and that is one of the causes of dissatisfac- with the state of things as it now exists.

What remedy could you apply to that ? You would not pose, for example, to get rid of the local authority ?— uld not desire to get rid of the local authority, but I ld point out that the present urban authorities are tically, in a very large number of cases, merely persons rning what is really a village. In the great majority of alled urban places in Sussex the houses are merely at sides of the main roads; there is no accumulation of lation such as would require stringent laws as against There is nothing in the least degree special in regard laces like East Grinstead, which has been mentioned, istinguish it from the ordinary villages of Sussex in one of which a row of houses may at any time ng up.

Would you advocate no by-laws ?—Not wholly. Last ember I read a paper before the Institute of British itects. I may mention that I have taken this thing up some years. I went to the Local Government Board in , as the leader of a deputation from the Royal Institute British Architects. On two occasions I attended there, I think it was largely in consequence of that that the ified model was brought out of which you have already d. In my paper at the Institute which I alluded to I ested that some seven or eight general by-laws for the le country might be enacted; that those would meet all is really necessary in small towns and in rural districts; they could be enforced without the supply of any vings beyond perhaps a block plan; that they could be rced by almost anyone employed as an inspector; that the s of man now employed as surveyor might very probably mployed as inspector under a competent surveyor; and the districts should be grouped of such a size that they d afford to employ a competent surveyor over them. I ld suggest the county councils as being the authority to int this competent surveyor. Sussex is divided into counties and, therefore, they would have two surveyors, I think a good man could very well look after each of e counties, the boroughs of Brighton and Hastings g omitted from the counties. I think there should be a eyor more of the class you get in big towns, who should authority over the inspectors who could look after the n or eight by-laws which I believe to be the only ones y necessary so far as building goes.

Vill you put yourself for a moment in the position of urveyor or of the officer advising the district council. ld not you think it necessary to have plans sub- ed ?—Not in the least.

Not even as regards the direction of streets and so on ?— speaking now in regard to buildings.

Would you repeat what we so often see, where in the nce of these restrictions or these powers by the local ority, buildings are planted down here and there so after a few years it is absolutely necessary for the local ority at great cost to make new streets in straight ?—I would point out that one of the by-laws I est is, that no building should be put nearer than et to the centre of the road as defined by the local ority.

ou begin by defining the road ?—I let them define the Most of the roads in the country are not straight.

o, but they should be continuous ?—They should be. are as a rule. When it comes to the laying out of suburbs of towns the question of sewers and so on d come in. Then, of course, the local authority would their say, because the sewers would have to be made eir satisfaction. I would point out that it is the build- wners and not the local authority who make the roads sewers.

nd bear the cost of them ?—Yes.

With regard to the use of incombustible materials and the strength of walls, do you think that that power should be in the hands of the local authority ?—I do not think it is necessary for small buildings.

You mean a couple of cottages ?—Yes, but I would have party-walls used in all cases.

Therefore you would define the thickness of the party wall ?—Yes. The Royal Institute of British Architects drew up a by-law on party-walls which they submitted to the Local Government Board some years ago, and that by-law I think meets the point.

Then you say under the Public Health Acts rural district councils can obtain urban by-laws, and these for the most part are now in force in rural districts ?—That I think is the reason of the agitation which has taken place. I think the Local Government Board, without quite seeing what they were doing, granted urban powers to rural authorities, and that has caused very considerable irritation. I think the mistake they made was regarding the by-laws as a whole. Perhaps a rural authority wanted powers to lay out streets, and so they went for the urban powers, which go a great deal further than anything they wanted.

But there was an Act passed, one of the clauses of which conferred the power upon the Local Government Board to grant the rural councils urban powers on application ?—Yes.

It is only on application that those powers have been granted ?—Yes; but I think that in granting those powers the Local Government Board did not see that any power granted to a local authority was so much liberty taken away from the person who wanted to build.

Must not that be so in every case ?—Yes; and I think not realising that, they went further than there was any necessity to go in that way. There is one thing I feel a good deal personally. Weather-tiling is very much used in Sussex in the old cottages. That has become impossible under the by-laws which are frequently adopted.

Impossible for what reason ?—Because you have to build in brick.

That is to say, the use of wood is prohibited ?—The use of wood is prohibited, and if you wish to have the appearance of the weather-tiling you have to put it on a 9-inch wall. It is ignored, in fact, for the purposes of the by-law. Now a 9-inch wall which passes the by-law, built of Sussex bricks, will not keep the wet out; the plastering and paper will not hang on the walls, the place is damp and the cottage is bad. The old cottages with the weather-tiling on wood are perfectly sound, perfectly comfortable and infinitely better. I think it was feeling that which first made me take up this subject—that so much worse a thing was being done under the law than before the law was invented.

Did you hear Dr. Thresh's evidence this morning with regard to the exemption clauses ?—Yes.

Would that meet such a case as you describe ?—The exemption clauses would do some good, but I think if the party-walls were insisted on, the exemptions might practically be allowed in all the small towns for domestic buildings.

The party-wall you think would give you safety as regards fire ?—Yes.

Anything else beyond that ?—Yes; I think it is a question of decency. I think a proper party-wall as between cottages and houses is a question of common decency.

If made sound-proof ?—If sound-proof so much the better.

Lord Hylton.

You would like to go further than this Bill goes ?—I certainly should.

Lord Stanley of Alderley.

Your party-wall would go right through the roof and right up ?—Yes, when the buildings reached beyond a certain size, but it is not in the least degree necessary that it should do more than go up to the underside of the roof covering in small buildings and cottages.

If you build a street of cottages would not you carry the party-wall through those ?—No, I think it unnecessary.

Have one roof over the whole ?—Yes, have the party-wall carried up to the underside of the slates.

Even in a Sussex village with ten or twelve cottages, all contiguous, you would rather wish to have the weather-tiling, and therefore power for wooden construction ?—Certainly. I think the cheapest way to build a cottage in that neighbourhood would be with two 4½-inch walls with proper ties on the ground storey and then timber above weather-tiled and overhanging the walls. You would then have a perfectly dry building; but if you carried the 9-inch wall up the two storeys you would certainly have a wet one. The reason for not carrying the party-wall through the roof is, that it lets in the wet, and wet is a very much more serious evil on the south coast than fire.

Chairman.

You mean it is difficult to make the joint?—Yes. It can be done, but it adds to the expense.

As regards the model by-laws issued in 1901 for rural districts, I understand you think they are an improvement on the previous ones?—They are an improvement, but I put it in this way, that the architectural authorities to the Board gave in and the doctors held out. I think the architectural authorities gave in too much, because they took out the party-wall. I got the Institute to pass a resolution on that subject afterwards. On the other hand, I do think that they are most unnecessarily oppressive on the question of the windows and the height of storeys, and so on. I do not think those are things we ought to employ officials to look after at all. It is all grandmotherly legislation.

With regard to the powers contained in clause 5, which would enable the Local Government Board to require the adoption of good by-laws when any district asked to be relieved of those now in force, what do you say?—I think that part of this Bill is extremely important. It is very difficult for the inhabitants of a district who feel themselves oppressed by this sort of thing to take action themselves. I do not think from what I know of the ordinary rural districts that the councils themselves or their surveyors are in the least degree competent even to go to the Board and ask for other by-laws. I think that the Local Government Board ought to have the power of intervening in the matter.

But they have no power from Parliament which would enable them to compel the acceptance by a local authority of any by-law, however good they might think it to be?—That is so.

Would you propose to give them that power?—I certainly should like to give them that power.

How would that be enforced? Could it be enforced upon a local authority who was disinclined to have it?—My impression is that the local authority would be only too delighted to be relieved of the responsibility which they now know themselves to be quite incapable of carrying out. I have spoken to several members of the rural authority which came into contact with Mr. Justice Grantham, and I am quite certain they would be only too delighted to be relieved of the responsibility of the whole matter.

Lord Hylton.

Have you found in the case of some district councils that they take this line: they say, "After a great deal of trouble, and perhaps after an interval of two or three years in which by-laws have been bandied about between us and the Local Government Board, we at last have got them to sanction a certain code. Experience shows that that code has not worked well, and we many of us think it ought to be modified, and the new model by-laws would meet our case. But we have had so much trouble and delay in our dealings with the Local Government Board that we would rather sit still with our by-laws, which as we know ought to be improved, than go to the Local Government Board and enter upon a fresh period of trouble?"—I can quite imagine that that might be the feeling of one of those authorities. I think they feel themselves very largely over-weighted by the burden put upon them.

Chairman.

Clause 5 would not relieve them of that, but only increase the number of applications that there would be?—Still the Local Government Board would be in a position to suggest to them with a certain amount of authority that they had better alter their by-laws. Clause 5 gives the Local Government Board actually the power to make by-laws and thrust them upon them.

Lord Stanley of Alderley.

It is power not merely to annul the existing by-laws, but to put others in their place?—Yes, otherwise it would be useless.

Chairman.

I do not see how they are going to enforce it. Supposing the local authority were violently opposed to it, and said, "We will not have it?"—I think you might meet that case when you came to it. I do not think they are so wedded to their powers.

Generally, with regard to the Bill, you think it is necessary, and that it would facilitate the provision of cottages
in country districts, the prevention of overcrowdin
country towns and villages, the relief of landowners
onerous restrictions which are unnecessary to public h
or safety, and the avoidance of friction and the was
public and private time and money?—Generally, I thin
Bill would tend in that direction.

Lord Zouche.

What do you say about giving the local author
power to revise their own by-laws?—They have that n

Only with the sanction of the Local Government Bo
—Yes.

But I mean to give them rather more extensive powe
to give exemptions without having recourse to the L
Government Board in any case that they thought migh
worthy of exemption?—I should have no objection to t
having discretion in the whole matter. If they were n
competent bodies I should quite approve of its being wh
a question of discretion, but I am afraid they are not
ficiently competent bodies.

Chairman.

They are rather averse to having the discretion?—
understand, and it has been rather the policy of the L
Government Board to advise them not to exercise
cretion. If there was a superior surveyor acting for th
who could advise some body, either the county counci
the magistrates, in cases where discretion should be u
I think that would be a very great relief to everybody.

Lord Zouche.

Do you agree with the last witness who thought
these local authorities would have some objection to be
given such discretion as we are talking of, for fear of be
accused of favouritism?—Yes; but if they are fit to
local authorities they are fit to exercise discretion. If t
are not fit to exercise discretion in minor matters of
sort, they are not fit to be local authorities at all.

Lord Stanley of Alderley.

When you spoke of a superior surveyor for the coun
was it your idea to put him in the position of the sort
district surveyor you meet in London, and make him rea
a court to decide whether the by-law should be stric
enforced or exemption allowed?—That is not the positi
of a district surveyor in London.

He has power to pass surveys; he takes you bef
the magistrate in London?—The district surveyor has
nominally that power; but the district surveyor is a m
of education, and he is, or rather was (perhaps it is
quite the same now), the class of man whom you co
trust to exercise discretion.

He has very wide powers?—Not nominally.

In fact he has?—In fact he has, and of course distr
surveyors differ. There is no doubt that a good professio
man, such as a district surveyor, sees a way through
Act, advises the architect as to the best way of meeting
requirements of the Act, and is very helpful.

You speak of these two superior surveyors for the wh
county of Sussex. Would you consider that those men,
there was any dispute, should have power to pass the point
—I think he should not have it personally but see his co
mittee about it.

That would make three months delay if he had to rep
to the committee?—He might have the chairman of a sm
committee to act with him.

Chairman.

Would not your suggestion that there should be a co
petent surveyor appointed be a rather difficult one. In t
first place, would it not lead to additional cost?—I suppo
the counties do keep a man of some position.

But I think we have it in evidence that in the rur
districts it is not always the case?—I am speaking of t
county.

In the case you referred to, where Mr. Justice Granth
was interested, there is none apparently?—That was t
local surveyor. I want the county surveyor. It is i
possible to ask these very small districts, for very sm
districts they are so far as building goes, to appoint a su
veyor at 500*l.* or 600*l.* a year.

It would be very difficult on the ground of expens
But further than that, if you are going to confer upon th
surveyor the power of determining individual cases, an
not always determining on the same lines, you are going
put in his hands an enormous power, because if he we
professionally engaged outside that it might lead to difficu
ties?—I do not think he should be that class of man. Yo
could not give it to a man professionally engaged outsid

ut if you take Sussex it could very well employ two urveyors in this capacity.

And they would have to travel about?—They would ave to know the county.

Lord Zouche.

Do not you think the time of the county surveyor in Vest Sussex is entirely taken up with roads?—Yes. I do ot think a road surveyor would be the proper man.

You would have to appoint a new official altogether?—'es, I think that is very possible. At any rate, you would ave to find some man who would be competent for the vork. I am not very strong on the appeal at all; my real round is, have as few by-laws as possible.

Mr. Robert Weir Schultz was the next witness.

Chairman.

You are an architect and you have had considerable xperience in a professional capacity of the mischief caused y the unnecessary interference of building by-laws. Will ou tell us what in your view is the principal mischief?—ne of the principal points is that the by-laws tend to ncrease the cost of building unnecessarily.

You believe that by-laws are necessary?—No, I do not hink in rural districts by-laws are at all necessary. I consider that the Public Health Act covers all reasonable contingencies with regard to rural districts.

Lord Stanley of Alderley.

By rural districts, do you mean rural areas or rural istricts?—A rural district of course includes villages.

Do you really mean rural areas or "rural districts," vhich has a technical meaning?—Rural districts in the ense that they are governed by rural district councils.

Then you say there ought to be no building by-laws for pit village with 1,000 cottages in it?—Not if it is distinctly village.

Of course it is a village till it is made an urban authority. f there is a large colliery being opened up and a thousand itmen's cottages being built in streets in a rural district, ou say that being a rural district there should be no uilding by-laws?—Perhaps I may modify my area. I nean a purely agricultural or country district—a rural area.

Chairman.

"Rural district" has a technical meaning which you ad overlooked, perhaps?—Yes.

With regard to the new model by-laws for rural districts which the Local Government Board have issued, do ou think they contain unnecessary restrictions?—I do.

That is even with regard to the latest series of them?—Yes.

What do you say as to clause 3 in the model by-laws?—That is in the new model rural code of 1903, which is the ast revision, I think.

Tell us what is your objection to clause 3. You say it is enerally altered so as to be made compulsory under all onditions by rural councils?—I found in almost every ase where I had to deal with rural district by-laws that his clause has been compulsory as to 6 inches of concrete under the floor. It is only necessary in certain cases where he nature of the soil renders it such.

I think Lord Stanley read the section in which it was hown that it was not compulsory in all cases?—It is not compulsory in the model code, but it is altered very often. f this code was accepted as it stood by the local authority and applied by them, it would be all right.

Do you mean you think the local authority act erratically?—Very often they try to make these model by-laws more stringent and send them in, and the Local Government Board, on the principle of letting the local uthority have a free hand, accepts them.

Then clause 4, you say, is unnecessarily restrictive, and goes too much into specific detail, and that a general provision as to an efficient damp course would be sufficient. If you were an adviser of a rural district council, would you not think it better to have some clear prescription or definition of what was to be done?—You always make limitations by making restrictions, which very often tend to increase cost.

But, on the other hand, you would not venture to leave t to be a question of dispute hereafter as to what was an efficient damp-course. Would not you prescribe in some form a minimum of your requirements?—When you go to state definite types of damp-course and there are other equally efficient ones in the market which are perhaps half the price, it seems perhaps rather hard, when you are building in an economical way, that you cannot use them. That is the danger of too much definition. I may say generally with regard to these clauses that the principal parts of the rural code which especially add to the cost of the building of cottages are the drainage clauses.

But you do not touch that by this Bill?—No; but these are where the general costs come in with regard to the rural code. In this clause which I refer to a good deal of money could be saved if the clauses were not so stringent.

You go on to speak of clauses 6 and 7. These are all in the last model by-laws, I understand. You say that bay windows are allowed to project beyond the building line in towns, and why not, therefore, in rural districts?—That is a small detail, but it is a point on the lines of restriction.

You say clause 8 is restrictive in the sense that it does not recognise top-lighting and ventilation as an alternative to side-lighting, and that in many cases one would be quite as efficient as the other. Then what have you to say upon clause 9?—That is a question really of the situation of the house. For instance, a house on the top of a hill open to the winds and having full sun and air facing due south, does not require as much window area as a house in a hollow which gets a minimum of sun.

Clause 10, you say, is arbitrary in the sense that it prevents a solid board floor being laid on the ground floor?—Yes. It is often more wholesome to put concrete over the whole area of the ground floor even in a cottage, and put wood boards on pitch to get a solid floor so that you have no space underneath. This clause will not allow of that. I have a case here, reported in March of the present year, in the county of Hampshire, where a surveyor absolutely declined to allow a solid floor to be laid in cottages, and the result was that the scheme did not go on.

Lord Stanley of Alderley.

Clause 10 does not require a boarded floor, as I read it, in those model by-laws?—No, it does not require a boarded floor.

It says if there is a boarded floor it should be ventilated underneath, but it does not require a boarded floor?—My contention is that you can lay boards on a solid basis in the same way that you can lay blocks. Blocks are wood, and a 1¼ inch board can be laid just as efficiently as wood blocks 1¼ inches thick. The surveyor would differentiate between the two. Besides a wood block is a board.

Chairman.

With regard to clause 11, you say that these apertures are generally effectively stopped up with bags a few days after a house is occupied?—That is so. The ventilators are very seldom to be found in active use, especially in a cottage.

And even in a workshop?—Very often, and if you have windows to open you have everything. If people will not open windows they certainly will not keep ventilators open.

The Bill does not touch the drainage sections?—No.

Then with regard to urban by-laws, have you anything you wish specially to draw attention to?—I think the question of the width of roads is too much insisted upon even in he urban by-laws. It is not so much the necessity of having a wide road, but the necessity of having a wide space between the buildings on either side of the road, and my contention is that you are adding to the initial cost of building by the by-laws insisting upon having roads of a certain width, which is wider than necessary. Of course one must differentiate between thoroughfares and simply roads leading to a few houses, which never by any possibility can become thoroughfares in any large sense.

I suppose you would recognise that where building begins in a district hitherto unoccupied by buildings, it is desirable to have the buildings laid out in some form, so that thoroughfares can be established hereafter or so that they formed part of thoroughfares?—There ought to be some general scheme. I do not know how far it is desirable to insist on every detail of the laying out of an area of ground being absolutely adhered to. You may put in a main road through the area, and you may find reasons for altering your scheme.

You think the power proposed to be given to the Local Government Board would be of great use in enabling good by-laws as and when devised to be adopted with little friction and promptly?—Yes.

That is under clause 5 of the Bill?—Yes.

THE GUILDHALL, CHICHESTER.

SOME very interesting information concerning the church of the Grey Friars, Chichester, generally known as the Guildhall, is contained in a report made to the Corporation by Mr. P. M. Johnston and Mr. H. Michell Whitley, of the Sussex Archæological Society. It appears that the so-called Priory Park, in which the building stands, is the site of a castle, built by Earl Roger de Montgomery soon after the Norman Conquest, within the north-western angle of the city wall. In 1233 the site of this was given to the newly-arrived Franciscan friars, who utilised its materials in the erection of their church and its surrounding buildings. The latter, of which only the foundations below the ground remain, were probably partly of wood, The church was not all built at the same time, as is evident from the character of the various mouldings and other details. It seems certain that the destroyed nave, including the still existing chancel arch, was first erected soon after 1233, while the choir was not completed till about 1270. At the Dissolution in the sixteenth century the church was desecrated, the conventual buildings and the nave were pulled down and their materials sold, the chancel arch being walled up. The choir thus left standing became the property of the citizens, and was until recent years used as the Guildhall of the city. The doorway and window in what then became the west wall are evidently relics of the destroyed nave, fragments of which, including the jamb of a window, remain on either side. On the south is also a semi-octagonal stair-turret, which was perhaps originally higher and terminated in a belfry. This turret bears the appearance of a fourteenth-century addition. Beside it, in the angle of the nave wall, is a peculiar piece of corbelling that may have carried a small passage in the heart of the wall.

The choir, in spite of the ill-treatment and neglect of the last four centuries, still retains its general character, and most of its original features remain in a wonderfully good state of preservation, a testimony in part, says the report, to the excellence of the first construction. It is exceptionally spacious and lofty, having an internal length of about 77 feet and a width of 25 feet 9 inches, while the height to the collars of the roof is about 35 feet. The side walls are pierced at intervals with very graceful windows, five on either side, the design consisting of two lancet openings divided by a mullion, and having a quatrefoil above. On the inside a moulded string-course carried round the heads connects these ranges of windows. The great east window, or group of windows, is one of the most remarkable of its kind in England. Almost the whole space of the east wall is filled with this noble group of five enormous lancets, divided by pier mullions and widening progressively towards the centre. Externally, they are framed with a great segmental arch. The heads of the outmost openings have been lowered, probably in about the year 1320, and a cinquefoil cusping inserted, the pitch of the gable being lowered at the same time, much to the detriment of the original proportions of this fine design. The blocking of the lower part of the great lancet windows and the erection of a shelter, with a corrugated iron roof below them, have still further marred this east end. There are two doorways in the north wall, both blocked, which evidently communicated with the destroyed conventual buildings by means of covered passage-ways, the roof marks of which are plainly visible upon the walls. Lofty and well-designed buttresses, in an excellent state of preservation, divide the north and south walls into bays, and flank the east window. In common with most of the wrought stonework, they are in Caen stone, and are very good examples of their date. A chamfered plinth, now for the most part buried by the raising of the soil, runs round these buttresses and the walls.

Nearly the whole of the south side, it is remarked, has been much disfigured by the erection of unsightly outbuildings, some quite modern, used as lavatories, &c. These, besides hiding the beautiful windows and buttresses of this front, are a sad eyesore in themselves. The interior is plain to the verge of severity, but the noble proportions and the beauty of the windows redeem it from the reproach of bareness, while in the eastern part the very interesting range of sedilia, piscina and wall-tombs are an agreeable relief to the eye. A boldly-moulded string-course runs beneath the windows, and from the fact that the walls below appear never to have been plastered, it seems probable that they were originally covered by the long ranges of the choir stalls. The grand design of the east wall is spoiled, not only by the blocking up of the lower parts of the lancet windows, but also by the erection of partitions formin cloak-rooms and lavatories for cricket and tennis player &c. Most of the windows in the side walls ar bricked up, and those that are still open have lost a gre deal of their glass through the stone-throwing of the boy who use the park. Very little control appears to be exe cised over these boys by the officials in charge. The roo is clearly not in its original condition, the pitch having bee lowered and the whole reconstructed in the fourteent century; with the exception of the moulded wall-plate it entirely covered with plaster on the inside, and much this plaster is in imminent danger of falling. Without th erection of a scaffold it would be difficult to say whethe the timbers are sound, but to all appearance they are gene rally in good condition. The tiling and guttering are greatl in need of repair, and the drainage of the building is ver defective. Everyone, it is added, who sees this nobl building must deplore its present state, and there seems t be a growing feeling that something should be done t remove the reproach attaching to the city of Chicheste therefrom.

Proceeding to deal with the question as to the futur use of the building, the report says that for it to revert t its original purpose, however much to be wished, is not a question of practical politics. The church, having bee desecrated and put to secular uses since the Reformation must be considered as a great civic building, and if it is t be rescued from its present ill-usage and put into a decen state a purpose must be found for it not unworthy of its historic interest and beauty. The suggestion is then pu forward that it should be made the County Hall for Wes Sussex, and put to such uses as the St. Andrew's Hall a Norwich, the ancient Guildhall of that city. With this idea in view, it is suggested that the roof should be stripped o its plaster ceiling, the rafters exposed, boarded over on the backs, and felted before the tiling is relaid. New guttering and pipes are also required. The repair needed to the external and internal stonework, it is added, is fortunately extremely small, but anything necessary to the security of the building should be carefully undertaken. Earth should be removed from the base of the walls and a paved dry area on concrete laid down at the original ground level. The windows should be unblocked, and all the unsightly modern excrescences removed from the inside and outside. Detached lavatories and cloak-room, shelters for those using the park, &c., the report says, could easily be erected at a convenient distance. The building itself might perhaps be railed round, and steps should certainly be taken to prevent damage to the walls and windows. The floor might be paved with wood blocks or tiling, the walls plastered and coloured above and panelled in part below. The windows should be glazed with leaded lights, into which might be suitably introduced shields of arms or coloured panels illustrating the history of Chichester and Sussex, but such purely decorative work could be left for after consideration. The cost of carrying out such a scheme, it is thought, should not be very great nor difficult to raise in such a county as Sussex, and the report suggests that for 2,000*l*. all that is immediately necessary could be effected.

CUSTODY OF LOCAL RECORDS.

TOWARDS the end of 1902 the report of the committee appointed to inquire as to the existing arrangements for the collection and custody of local records, and as to further measures which it may be advisable to take for the purpose, was published. Nothing has been so far done, says the *Glasgow Herald*, to carry out the recommendations of the committee, and that this is so is a fair sample of the too plentiful evidence which exists to prove how really national measures of a quiet and useful nature are blotted out by frothy and contentious subjects taking up practically all the time of the Legislature. The latter come in the end to nothing or very little after an avalanche of tiresome talk, when the simple little measures, like that of the local records, which commend themselves to everybody outside the very limited body of professional Parliamentary talkers, get, if not exactly blotted out, placed aside and lost sight of.

The committee on local records was appointed by a minute of the First Lord of the Treasury, dated August 10, 1889, and comprised eminent public men, Mr. James Bryce, M.P., succeeding the late Dr. Creighton, Bishop of London, in the chairmanship. They treated the expression local records as meaning documents of historical importance and interest relating to a particular place or district which have not been collected in any central depository. Such cal records may be classified as public, semi-public and ivate records. Among the first are parish registers and l other parochial records, among the second records of ientific and learned societies, and among the last all deeds hich are valuable to other people than those possessing em. The whole to be brought together at the selected ntres to form as complete a local record as possible; so is recommended the various authorities, trustees and ivate individuals retaining full rights of ownership. The gislation required to give effect to these proposals, in the st instance, to be mainly of a permissive and enabling aracter. The experience of a few years will show hether further and compulsory legislation is required, mark the committee.

It is a conspicuous feature of the new methods of his- rical inquiry that they make far more use of local mate- als than did the writers of earlier days. More light mains to be thrown upon land customs and the economic de of land tenure by the examination of the records and cient deeds of superiors or lords of manors. The study local history may have a practical value for the people well as a scientific value for the scholar. The materials r local history, if gathered and preserved in local centres, rnish a legitimate subject for pride and interest among ose who are the children of the people recorded.

From every point of view it is desirable to have such llections of muniments, public and private. The one is e complement of the other, for neither can be said to tain its full value kept apart, even when accessible. It ight be thought that parochial records were readily acces- ble, but this is not so. Session records, for instance, are own to be kept shoved away in drawers, like old gloves or ndkerchiefs, in desks in the parlours and even drawing- oms of manses. They are not catalogued or even indexed. o get at a single entry or reference it is possible possession the minister's apartment would be necessary for a few ys, and if the minister, we will say, had no objection to is it is pretty certain his wife would not continue to smile on the intruder. Yet the treasures in the minister's desk e the property of the public. They are national, and it is be feared in many cases their custodians fail to appreciate e value of what the law allows to remain in their charge, the mercy perhaps of mischievous children or careless rvants, to say nothing of fire. The original registers up 1700 or so of a Cumberland parish are missing, having en used by a former clerk's wife to wrap sweets up with. hen we come to consider the case of private deeds, the operty of landowners and others, it is no better, some- mes worse. As a rule old families who have muniment oms or charter chests show every courtesy to those making na-fide inquiry of any importance. There are others, wever, for the most part new people, who with the acres ey purchase acquire old deeds which are of no personal terest to themselves. These they or their solicitors put vay in repositories where, for all the use they are for pur- ses of local history, might almost as well have shared the te of the records Oliver Cromwell packed in casks and ipped to sea, where they were lost.

The suggestions of the committee on local records are erefore in the interest of everybody—of parochial and rghal authorities, trustees, private owners of records, storians, and last, but not least, the public. For the benefit the public the suggestions are made. It is depositories place of repositories that are desirable, and the more terest the public evince in the question the sooner the llection, custody, indexing and calendaring of local records ill be accomplished. The new rules of the House of mmons have destroyed the opportunities of legislation rmerly enjoyed by private members, so it is only Govern- ent can secure legislation. It is believed that if the inistry would bring in a Bill based on the recommenda- ons of the committee it would pass practically unopposed. he only objection to the measure seems to be that it does t promise sufficient grist to the mill of the professional lkers in Parliament. This is a pity, but it is one a little rsuasion is expected to overcome. Lord Rosebery might, r instance, invite the Prime Minister to a meeting of the uncil of the Scottish History Society, of which his Lord- ip is president, and see to him being detained in that en- htened atmosphere until he had confessed that the commendations of the local records committee had been ung up" long enough.

Mr. F. Taylor, chief architect in the Public Works epartment of the Orange River Colony, has been promoted the office of Secretary for Public Works.

TESTING OF NEW MATERIALS.

THE Bureau of Buildings of the Borough of Manhattan, New York, have considered what specifications should govern the acceptance of the newer building materials. This was made necessary by the introduction of such new materials as sand-brick, cement-brick and hollow concrete blocks. Common building bricks having been accepted as having sufficient strength, they were taken as the basis on which to fix the specifications, and the bureau proceeded to find what strengths were indicated by the common building brick. The tests were carried out by Professor Ira H. Woolson, adjunct professor of mechanical engineering at Columbia University, New York City.

Professor Woolson finds as a result of the tests that figures for transverse strength given in engineering books show results from 20 to 50 per cent. too high. There also seems to be no conformity between the transverse and crushing strength, or between strength and absorption.

As a result of the above tests the following regulations have been formulated by the chief engineer of the Bureau of Buildings, and approved by Isaac A. Hooper, the superintendent of buildings:—

1. The regulations are to apply to all such new materials as are used in building construction, in the same manner and for the same purposes as natural stones, brick and concrete are now authorised by the building code.

2. Before any such material is used in buildings an application for its use and for a test of the same must be filed with the superintendent of buildings. A description of the material and a brief outline of its manufacture must be embodied in the application.

3. The material must be subjected to the following tests:—Transverse, compression, absorption, freezing and fire. Additional tests may be called for when, in the judgment of the superintendent, the same may be necessary. All such tests must be made at some laboratory of recognised standing, under the supervision of the engineer of the Bureau of Buildings. The tests will be made at the expense of the applicant.

4. The results of the tests, whether satisfactory or not, must be placed on file in the Bureau of Buildings. They shall be open to public inspection, but need not necessarily be published.

5. For the purpose of the tests at least fifteen samples or test pieces must be provided. Such samples must represent the ordinary commercial product. They may be selected from stock by the superintendent of buildings or his representative, or may be made in his presence at his discretion. The samples must be approximately 8 inches long, 4 inches wide and 2 inches thick. In cases where the material is made and used in special shapes or forms full size samples may also be called for and tested in such manner as may be directed by the superintendent of buildings to determine the physical characteristic specified in Regulation 3.

6. The samples may be tested as soon as desired by the applicant, but in no case later than sixty days after manufacture.

7. The weight per cubic foot and specific gravity of the material must be determined.

8. These tests shall be made in series of at least five, except that in the fire tests a series of two (four samples) is sufficient. The transverse test shall be made first on full size samples ($8 \times 4 \times 2$ inches). The resulting half samples are then used for the compression and absorption tests, but in no case must both halves of the same piece be used in any series. Half samples may also be used for the freezing and fire tests under the same restrictions. The remaining samples are kept in reserve, in case unusual flaws or exceptional or abnormal conditions make it necessary to discard certain tests. All the samples must be marked for identification and comparison.

9. The transverse test shall be made as follows:—The sample shall be placed flatwise on two rounded knife-edge bearings set parallel 7 inches apart. A load is then applied on top, midway between supports, and transmitted through a similar rounded edge until the sample is ruptured. The modulus of rupture shall then be determined by multiplying the breaking load in pounds by twenty-one (three times the distance between supports in inches), and dividing the result by twice the product of the width (approximately four) in inches by the square of the depth (approximately two (in inches).

10. The compression test shall be made as follows:—The sample must first be thoroughly dried to a constant

weight. It must be carefully measured, then bedded flatwise in plaster of Paris or blotting-paper to secure a uniform bearing in the testing machine and crushed. The total breaking load is then divided by the area in compression in square inches.

11. The absorption test must be made as follows:—The sample is first thoroughly dried to a constant weight. The weight must be carefully recorded. It is then placed in a pan or tray of water, immersing it to a depth of not more than ½ inch. It is again carefully weighed at the following periods: thirty minutes, four hours and forty-eight hours respectively from the time of immersion, being placed in the water in each case as soon as the weight is taken. Its compressive strength, while still wet, is then determined at the end of the forty-eight hours period, in the manner specified in Regulation 10.

12. The freezing test is made as follows:—The sample is immersed as described in Regulation 11 for at least four hours, and then weighed. It is then placed in a freezing mixture or a refrigerator, or otherwise subjected to a temperature of less than 15 degs. Fahr. for at least twelve hours. It is then removed and placed in water, where it must remain for at least one hour, the temperature of which is at least 150 degs. Fahr. This operation is repeated twenty times, after which the sample is again weighed while still wet from last thawing. Its crushing strength should then be determined, as called for in Regulation 10.

13. The fire test must be made as follows:—Two samples are placed in a cold gas furnace, in which the temperature is gradually raised to 1,700 degs. Fahr. in one hour. One of the samples is then plunged in cold water (about 50 or 60 degs. Fahr.), and results noted. The second sample is permitted to cool gradually in air and the result noted.

14. The following requirements must be met to secure an acceptance of the materials:—The modulus of rupture must average 450, and must not fall below 350 in any case. The ultimate compressive strength must average 3,000 lbs. per square inch, and must not fall below 2,500 in any case. The percentage of absorption being the weight of water absorbed divided by the weight of the dry sample, must not average higher than 15 per cent., and must not exceed 20 per cent. in any case. The reduction of compressive strength must not be more than 33⅓ per cent., except when the lower figure is still above 3,000 lbs. per square inch; the loss in strength may be neglected. The freezing and thawing process must not cause a loss in weight greater than 10 per cent., nor a loss in strength of more than 33⅓ per cent., except that when the lower figure is still above 3,000 lbs. per square inch the loss in strength may be neglected. The fire test must not cause the material to disintegrate. (Note.—No great stress will be laid on this last test.)

15. The approval of any material is given only under the following conditions:—

a. A brand mark for identification must be impressed on, otherwise attached to, the material.

b. A plant for the production of the material must be in full operation when the official tests are made.

c. The name of the firm or corporation and the responsible officers must be placed on file with the superintendent of buildings, and changes in same promptly reported.

d. The tests must be repeated at any time when called for on samples selected from the open market, when there is any doubt whether the product is up to the standard of these regulations.

e. In case the results of tests made under this condition (*d*) should show that the standard of these regulations is not maintained, the approval of this bureau will be at once suspended or revoked.

GENERAL.

The United States Government Building at the Louisiana Purchase Exposition, erected at a cost of 500,000 dols., has been sold to a wrecking company for 10,500 dols. The steel trusses in the structure alone cost 100,000 dols.

The Berwick Sanitary Authority have considered a letter from the recently-formed historical monuments committee, applying to have vested in them the care of the chambers under one of the bastions of the Elizabethan wall, and also one of the flankers of the wall. The committee stated that their object was to preserve in good order for the inspection of visitors the historical and interesting parts of the old fortifications. The matter was referred to a committee.

The Edinburgh Architectural Association announce that the exhibition of photographs and drawings by Mr. W. H. Goodyear, illustrative of architectural refinements, w remain open until the end of October. It was opened the 6th inst. at the National Portrait Gallery, Queen Stre Edinburgh, by Lord Wemyss.

A Competition limited to four local architects w recently held for a chapel and school to be erected Shearbridge Road, Bradford. Mr. W. E. Potts, who act as assessor, awarded the first place to the plans submitt by Mr. E. H. Parkinson, who has received the commissio A premium of ten guineas has been given to Mr. A. Sharp

Lord Windsor's Visit to Venice for the Internation Art Congress will, it is hoped, says the *Sheffield Da Telegraph*, lead to the early completion of the decorati mosaicwork in the central hall of the House of Common Only two of the vacant panels have been filled—th of "St. George" over the Lords' corridor, executed as lo ago as 1870, and that of "St. David," placed in position more recent times. The original water-colour designs f these two panels were by Sir Edward Poynter, and t mosaics were executed in Venice.

The Old Circular Window formerly in the south transe of Westminster Abbey has been offered to the Dean an Chapter of Cape Town for the new cathedral in that cit The window was removed to make way for the windov memorial to the late Duke of Westminster. The gift ha been accepted provisionally—it will be placed in the edific if its inclusion can be arranged without impairing the arch tectural effect of the structure. It is hoped that the ne cathedral will be ready for consecration in three years' tim

The French Academy of Fine Arts have expressed regr for the loss sustained by the death of Mr. Waterhouse, wh was a corresponding member of that body.

The Ashton Town Council had a heated discussion la week on a recommendation in the minutes of the educatio committee that a Manchester architect should be engaged t supervise some alterations at Ryecroft school, the total co of which is not to exceed 1,000*l.* The opposers contende that the commission should be given to a local man. Th matter had already been referred back and the county archi tect called upon to adjudicate upon the plans.

The Local Government Board have approved of th Southampton Town Council borrowing 700*l.*, which is to b expended in connection with the restoration and preservation of the Undercroft.

The Treasury have made a grant of 10,000*l.* toward defraying the expenses of the British section at the forth coming Milan exhibition. It is anticipated that a particula feature of the section will be the exhibits by Britis engineering firms.

An Altar has been placed in Eton College Chapel as memorial of Etonians who died in the South African war It is of black marble, 16½ feet long and 4½ feet wide, an weighs 4½ tons. Supporting it are bronze symbols of the four Evangelists. The front has Belgian green panels and is adorned with two ormolu wreaths, centred by ornamental sheaves of wheat, the middle ones containing two chalices. When finished it will be surmounted by four bronze figures.

The Museums and Art Galleries in Dundee are to be open on Sundays after the free libraries committee have considered what would be the best working arrangement. The committee have approved of the principle and remitted to a sub-committee to report on the questions of the hours of admission, the pay for the Sunday labour and the cost of the scheme generally. The Town Council had recommended that the building should be opened from two till five o'clock in the afternoon, but it was thought by the committee that these hours should be extended.

Mr. Jasper J. Kelf, architect and surveyor, of Devonshire Chambers, 15-18 Bishopsgate Street Without, London, E.C., writes us that he is giving up his local offices at Leytonstone and Walthamstow, and his address in future will be 15 to 18 Bishopsgate Street Without, E C.

Mr. Arthur Vye-Parminter, architect to His Majesty's Embassy, Paris, has removed his office to 62 Rue di Prony (Parc Monceau), Paris.

The Society of English Painters has been formed. Its objects are to hold exhibitions of cabinet pictures in London, the provinces and abroad. The first exhibition of the Society is to be held during the month of October at Messrs. Dowdeswell's galleries. Two distinctive features of the Society—embodied in its rules—are "the works of all members are subject to the approval of the Council," and "every three years all members must stand for re-election." The second exhibition of the Society will be held in Berlin during the month of January.

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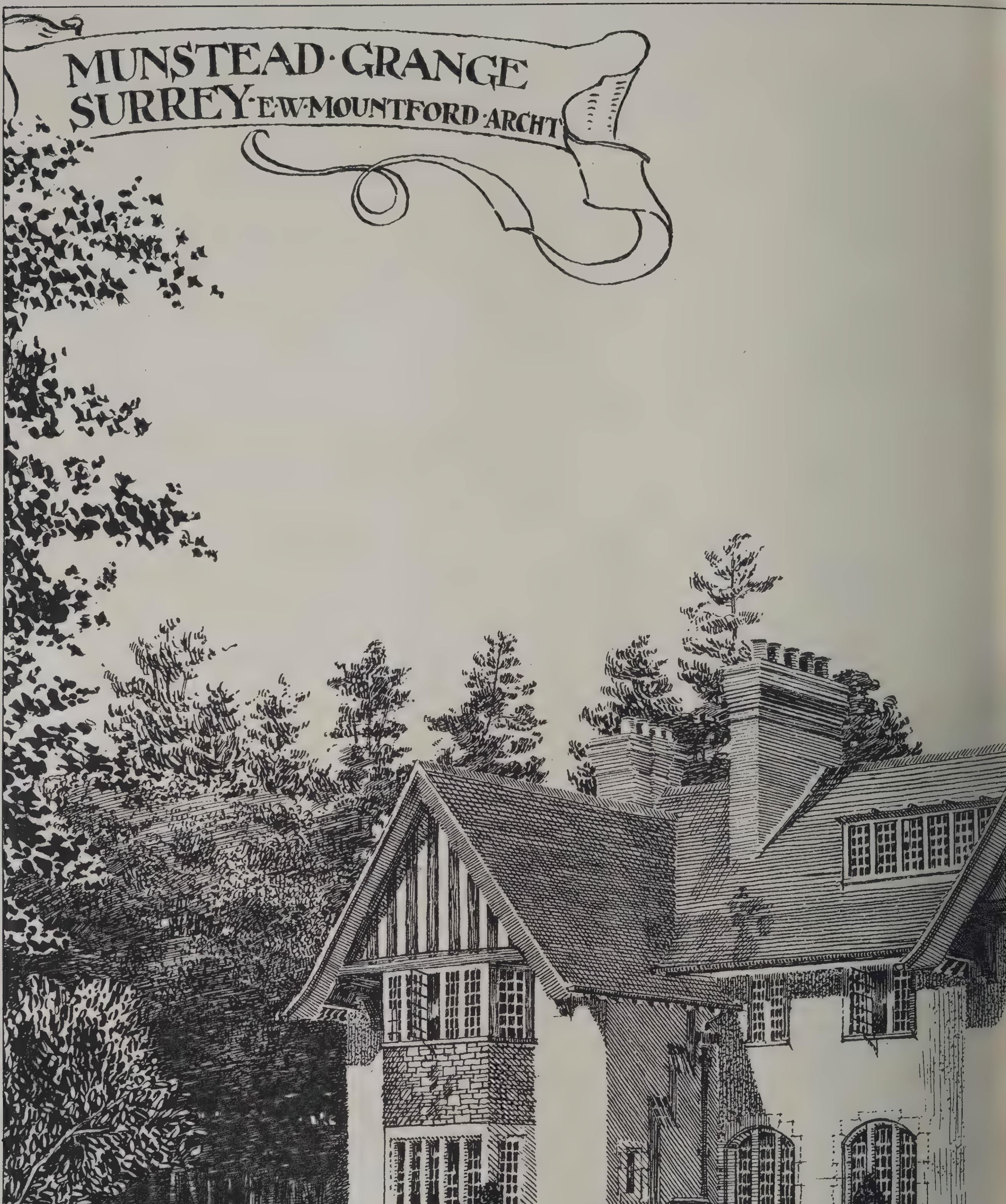
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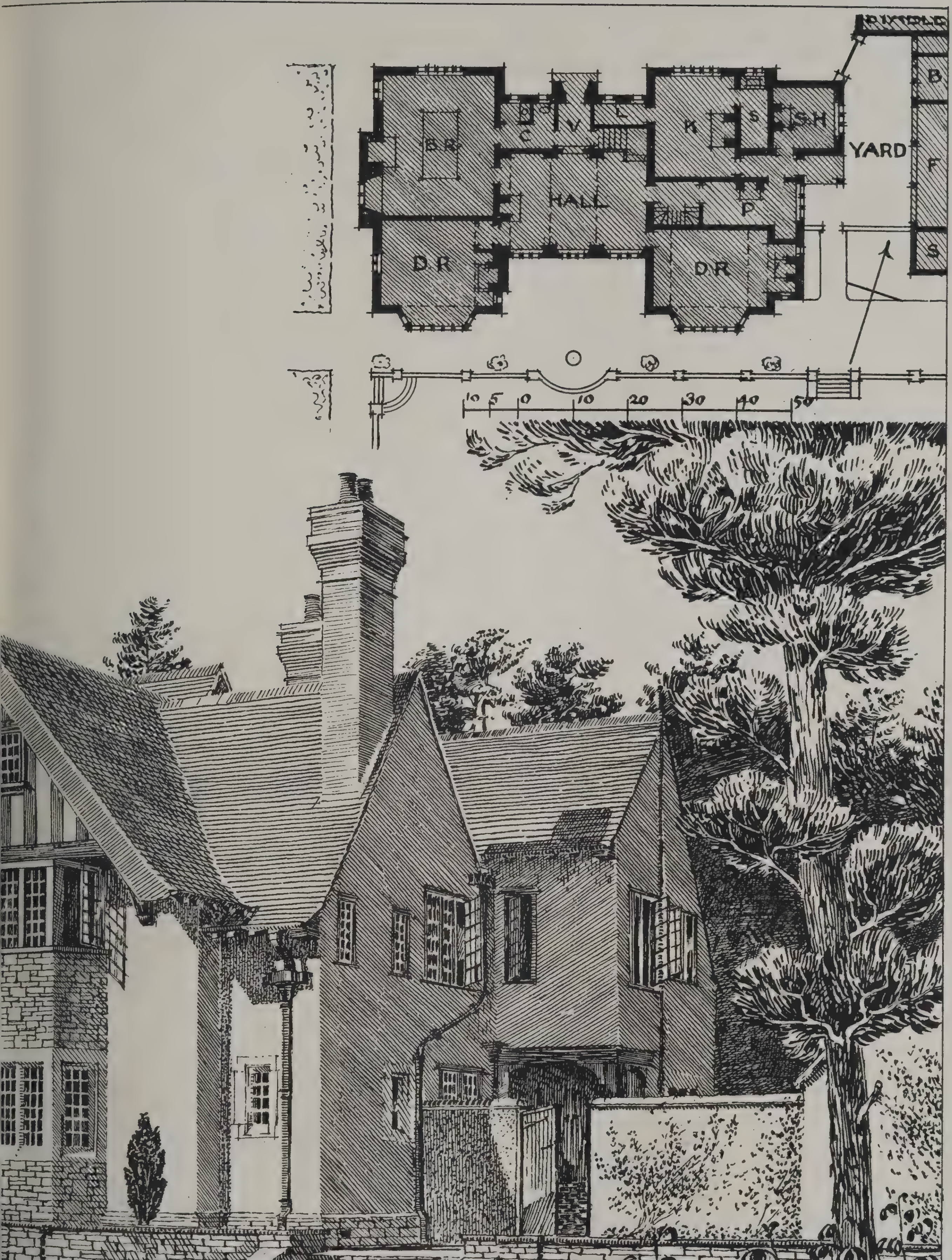

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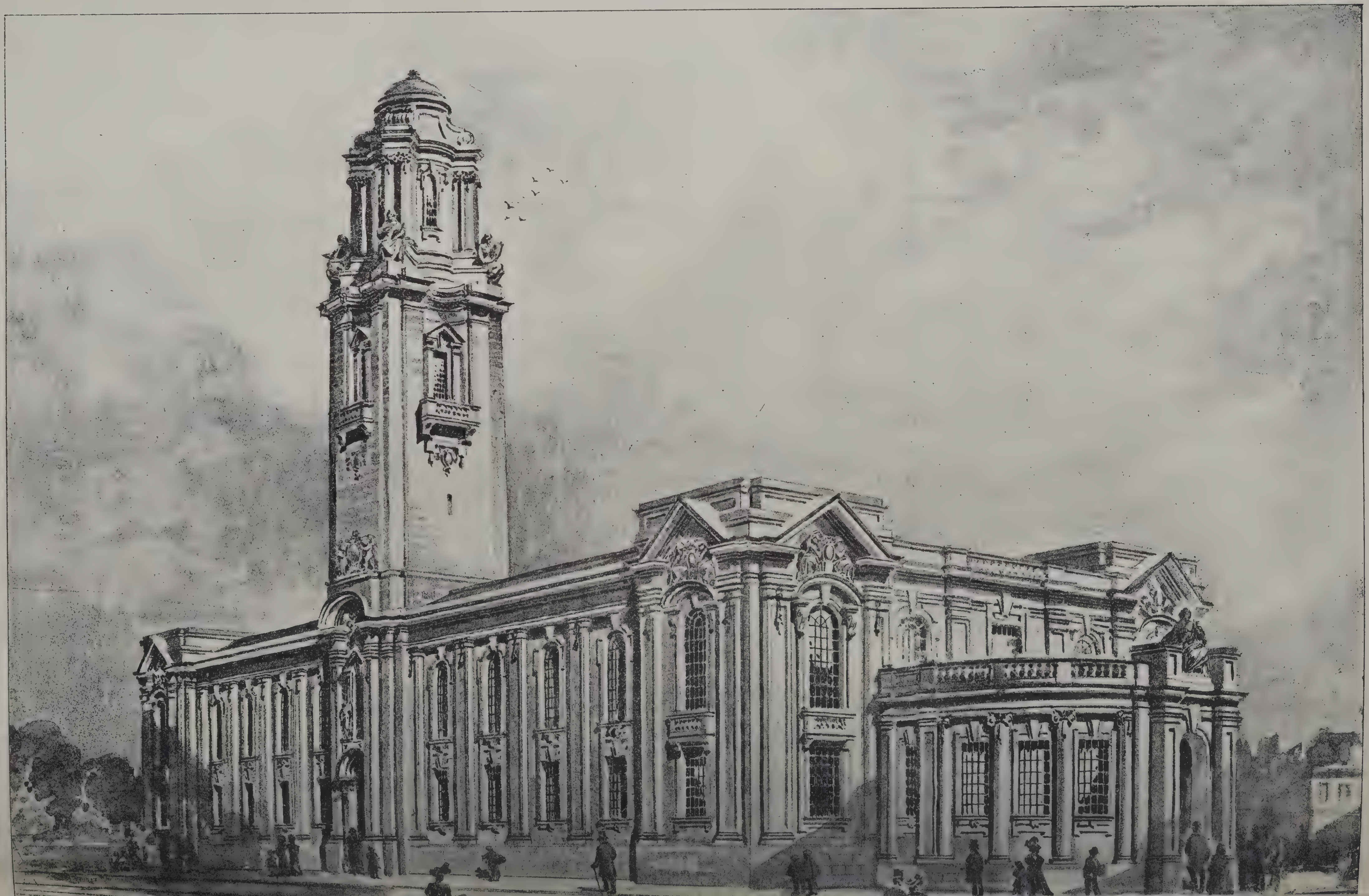

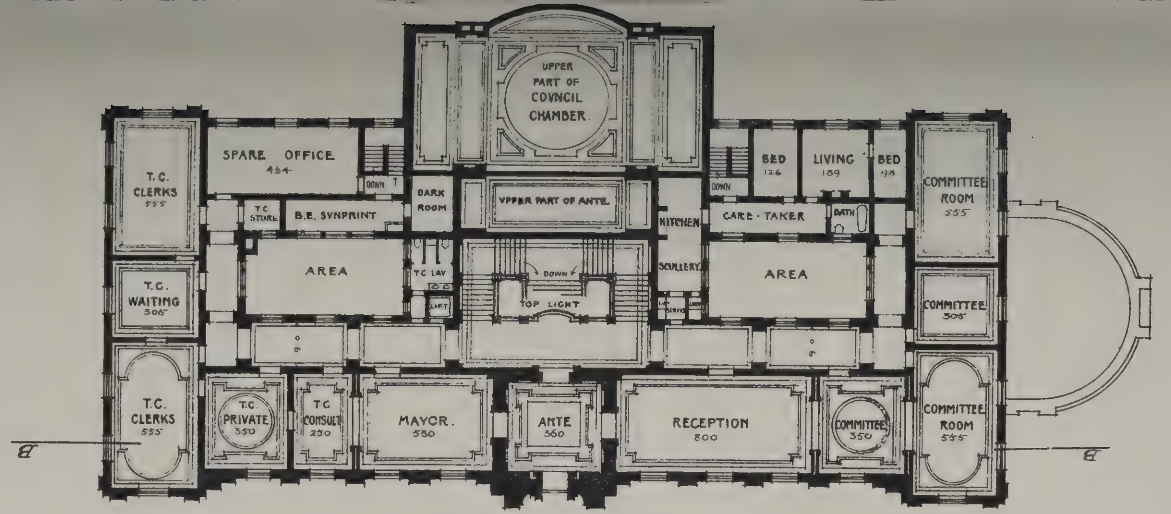

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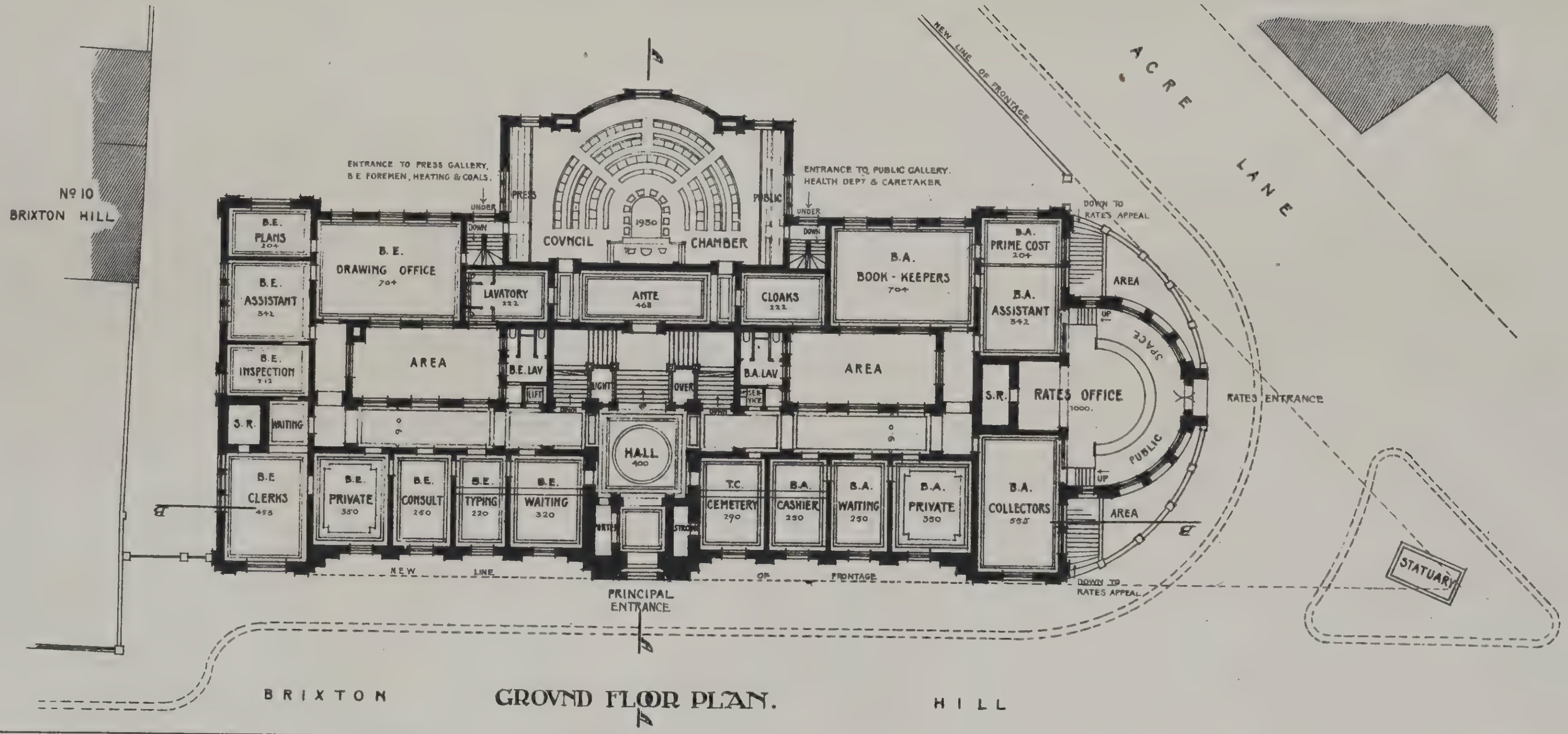

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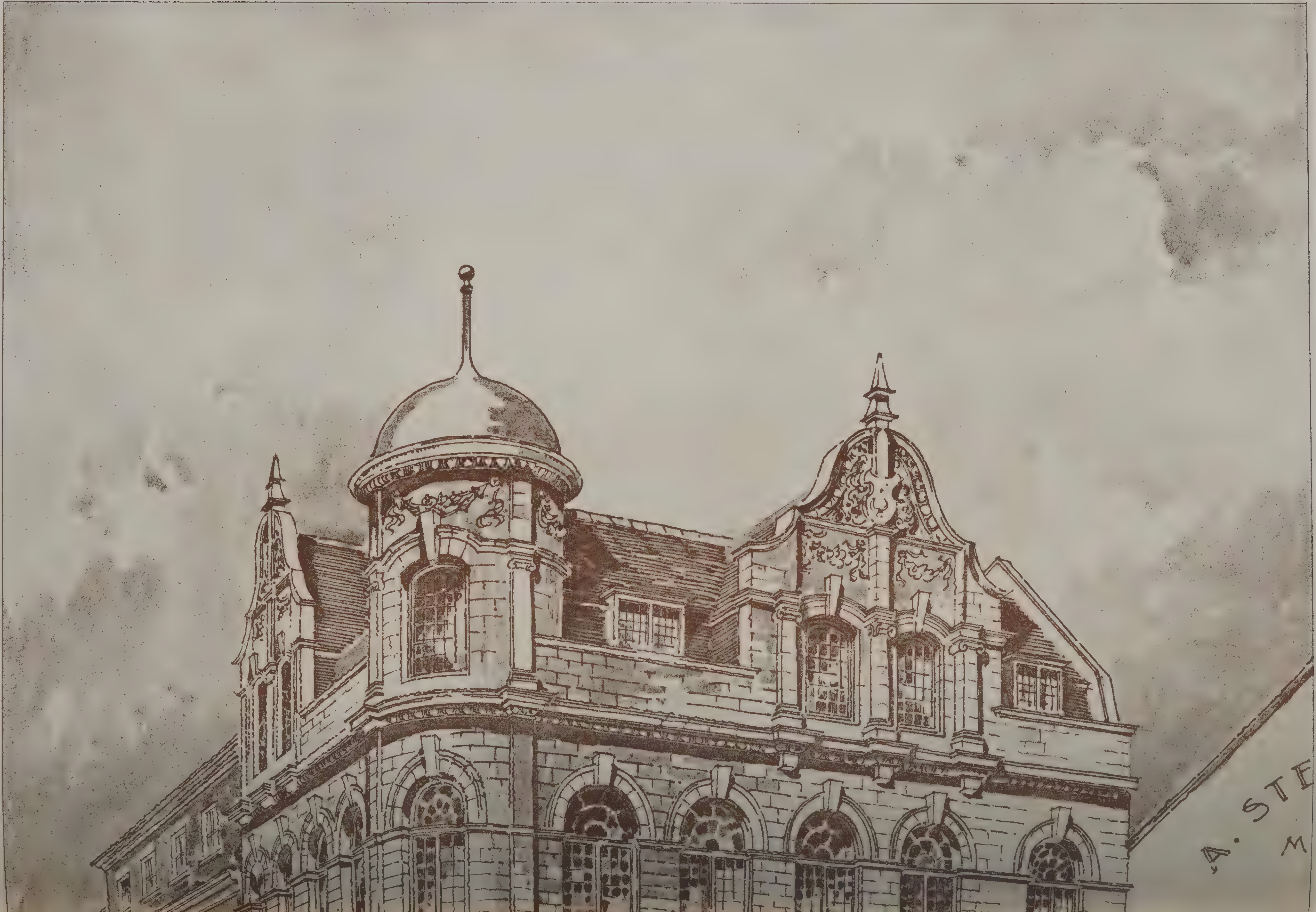
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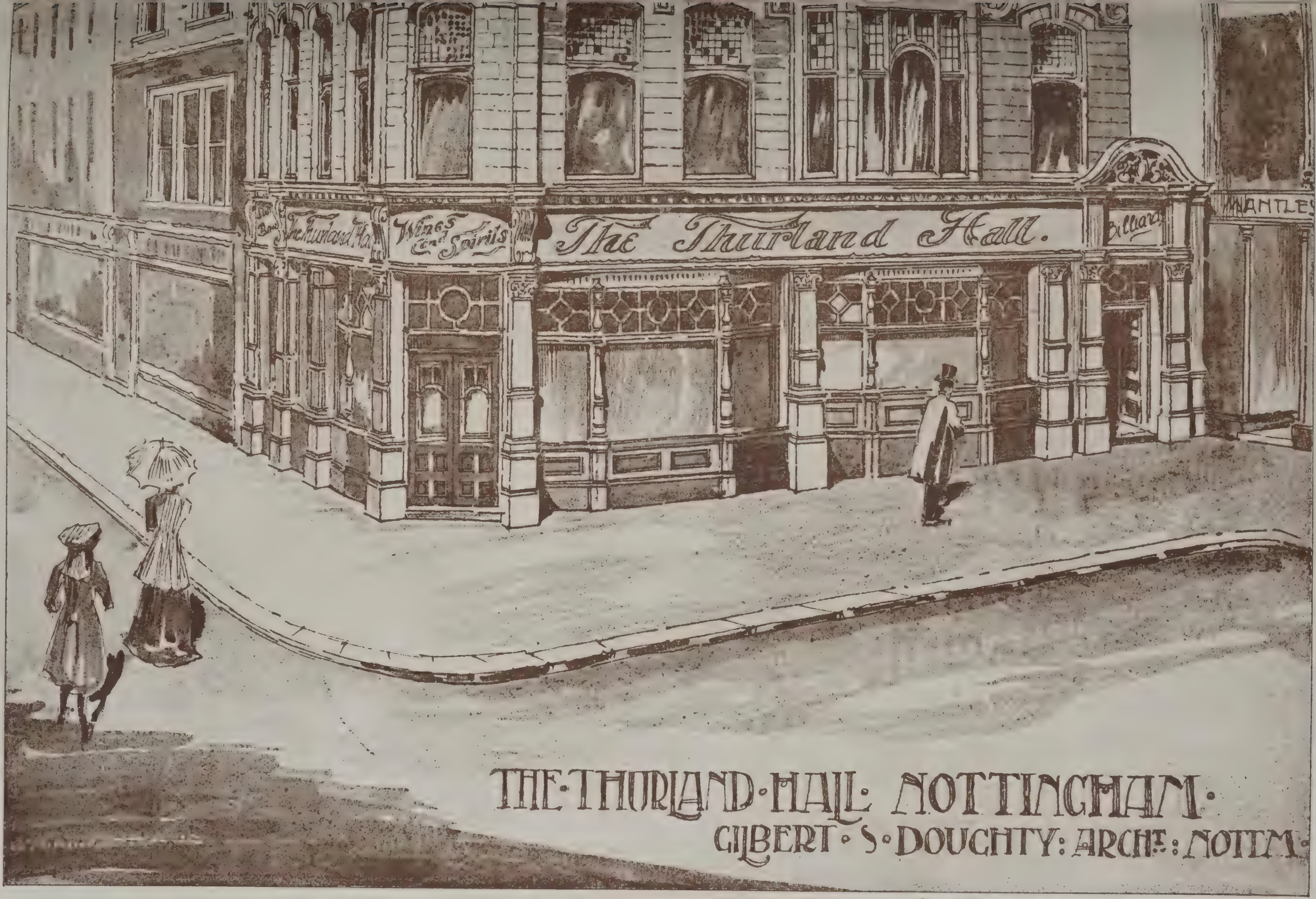

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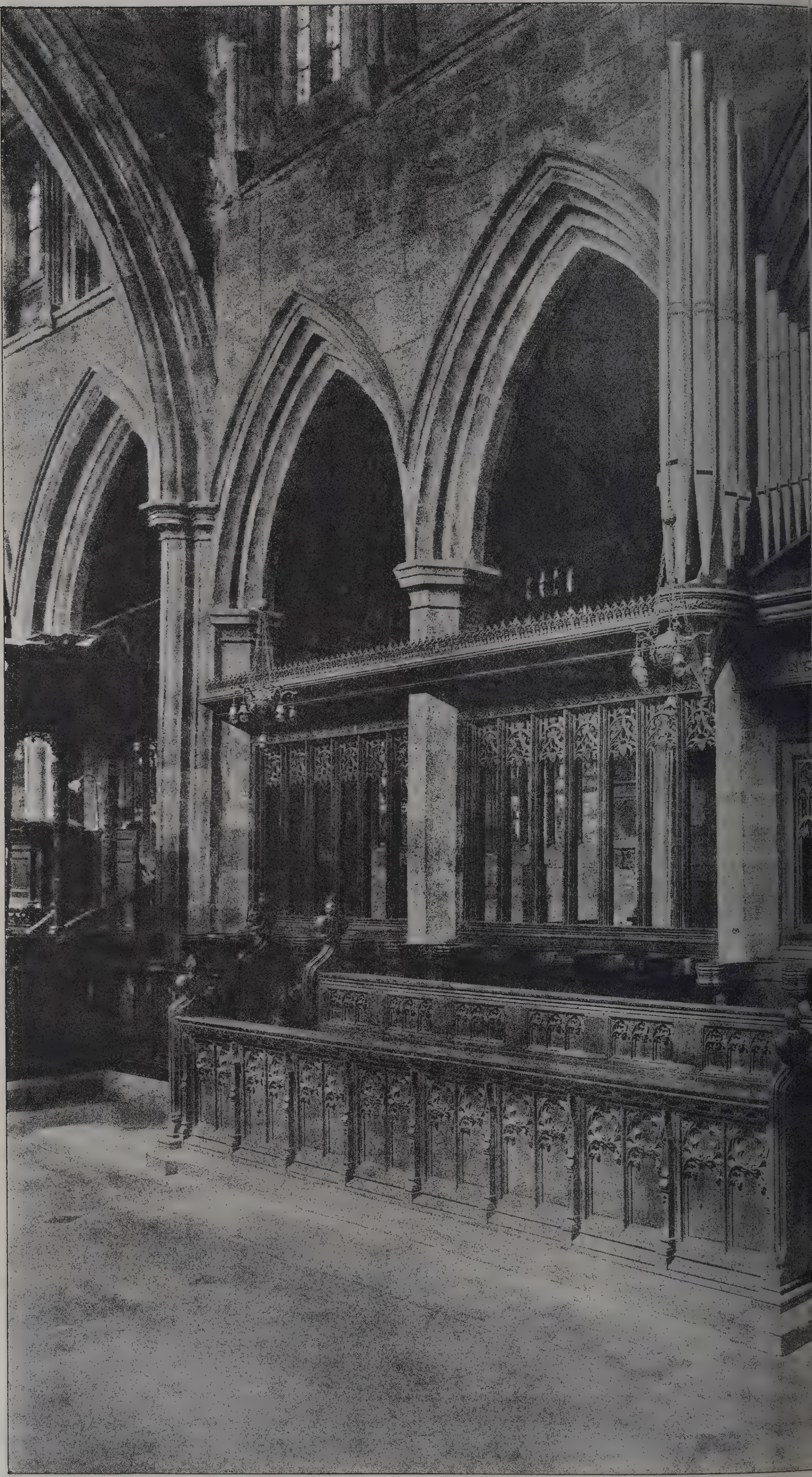

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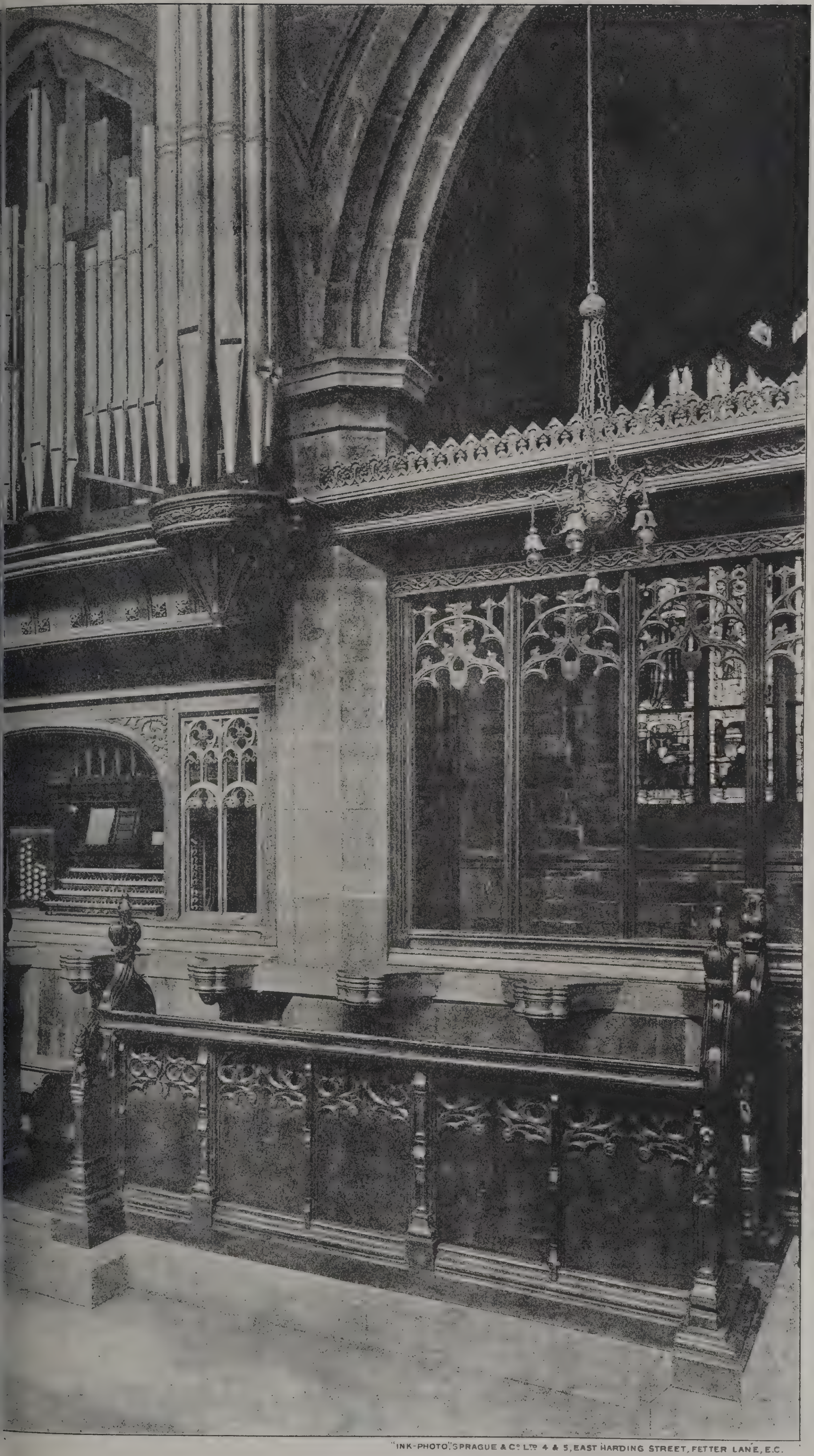
CATHEDRAL SERIES, No. 535.—WAKE



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The Architect.

THE WEEK.

AY there will be rejoicing in Düsseldorf and artistic centres of Germany, for it is the nine- birthday of Andreas Achenbach. He was the of the modern Germans who was able to convince s in other lands that a German could be a great scape-painter. It was believed that the national e of colour was imperfect, and a great many forest es present greens which are unlike the colour rally seen in nature. It must be admitted that enbach's trees at first did not differ much from of his countrymen. But he was courageous attempted scenes of a different kind. A view of old wooden pier at Ostend may be said to have his reputation. As a rule, a German painter to travel a long distance in order to see waves. enbach was able not only to represent those which against the French coast, but those which sometimes caused shipwrecks on the shores of Sicily. He could represent moonlight scenes which departed the conventionalities approved of sixty years ago. reas Achenbach was one of the earliest of the ralists, and he still can paint scenes from nature in orous style.

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nce more the project for raising the galleys or eboats which belonged to the Emperor Tiberius and ying at the bottom of Lake Nemi has been revived. subject should possess an interest for architects, Leon Baptista Alberti was connected with the attempt to bring the galleys to light, which occurred 50. He acted as consulting engineer at the desire ardinal Prospero Colonna. Fishermen had re- d that two great galleys were visible to divers. machinery for the purpose had to be improvised, t speaks well for Alberti's advice when we learn the prow of one of the vessels was raised. But was not sufficient mechanical power to do more he attempt was abandoned. In 1535 another archi- Francesco de Marchi, made further experiments. preparations were more elaborate than on the pre- occasion, but there was hardly as much success. It a long time before there was a third experiment. 327 Fusconi constructed a diving-bell. But the ys were so embedded in mud he came to the con- on they were wrecks, and it was not worth expend- ime and money on their rescue. A company l the Società Nemorense, with a capital of oo lire, has been formed with the object of making more effort. It is believed that one vessel ures 64 metres by 20 metres, while the other is etres by 24 metres. It is now supposed they were ructed in the time of Caligula, and may have served of the purposes of a marine temple. From ts already found bronze was largely used in the ruction, and the metalwork at least would be ble.

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lthough archæology is not valued as it deserves s country, it is remarkable how general is the idea nect most things with antiquity. The Iron and Institute is one of the most modern of scientific ies, and Sheffield believes itself to be representa- f our time. But at the meeting of the Institute uesday the president, Mr. R. A. Hadfield, in- d the audience that Chaucer spoke of Sheffield els in 1360, and that in the eighteenth century a h metallurgist testified to the important part which ield held in the history of metals. It afterwards lemonstrated that Sheffield was the cradle of the steel industry, of which the development has been largely due to Sheffield men. It was satisfactory that Mr. Hadfield was able to point out the improvement in trade. In one trades union branch, having about 2,000 members, there was not one who could be described as unemployed. One of the signs of prosperity was the increase of the Institute's members. An incident of the meeting was the appearance of Dr. Sorby, who was the first to advocate the microscopic examination of metals. He told the meeting it was a source of great satisfaction to him to see the Institute in Sheffield. For ten or twenty years nobody took any notice whatever of what he had done in connection with the structure of iron and steel, and it was a great pleasure to him to think that so much had grown from what he did, and that so many of his conclusions were now adopted.

The Hall of the Pregadi, in which M. de la Sizeranne delivered his eulogium upon "John Ruskin and the Religion of Beauty," is one of the parts of the Ducal Palace which have remained almost unchanged. It is easy to imagine the appearance it presented when the Doge, the procurators and the senators were present. The paintings are remarkable and exemplify scenes in which the Doges took part. In the great picture by Tintoretto of Pietro Loredan kneeling before the Blessed Virgin, who appears in the clouds, St. Mark's, the Campanile, the clock tower and other neighbouring buildings were introduced. The central panel of the ceiling-painting by Tintoretto represents Venice as Queen of the Sea surrounded by tritons and nereids. The King and Queen of Italy and the Minister of Public Instruction were among those who listened to M. de la Sizeranne. His address might be described as an adaptation of his book, which we noticed on its appearance. The occasion suggested that Venice still can be considered as embodying the spirit of internationalism. For what could be more remarkable than to hear a Frenchman lavishing praises on an English writer, who did more than any man in the nineteenth century to popularise Venice, in the great hall which was the scene of so many events in the history of the Republic?

One of the recommendations of the committee on public roads was the establishment of a special department which could obtain information regarding materials and construction from various sources, and disseminate it in the form of reports for the benefit of surveyors and others. In this, as in many other matters, the Government of the United States has taken the initiative by opening an Office of Public Roads. As the annual outlay on roads is about fifty millions of dollars, it is believed there is a waste of public money. One of the first objects of the new office will be the training of engineering graduates in highway engineering. It is anticipated that a year will be sufficient to explain the different methods of construction, and to enable the students to make surveys and estimates and to employ laboratory methods of testing. The office will give advice to any authorities who may apply, and, if necessary, superintend the construction of roads. Special experiments on a large scale will be carried out in suitable districts. The application of petroleum oils and coal tars will be tried in Columbia, and burning "gumbo" for foundations in Illinois. A well-equipped laboratory is maintained for the purpose of studying and determining the physical properties of various road materials, so that they may be utilised in the most economic manner. Special tests for macadam materials have been devised. Such laboratories have been established in a number of universities throughout the country, largely through the initiative and encouragement of the Office of Public Roads.

CONTRACTORS AND SUB-CONTRACTORS.

We have only to glance over such a book as Donaldson's "Specifications," which was published in 1859, in order to perceive that the position of sub-contractors and specialists with respect to building work was very different to what it is at the present time. We may now consider that the change presents a remarkable instance of evolution in business. Fifty years ago it was evidently believed that it was a safe course to leave everything in the hands of a general contractor. It was sometimes stated in the conditions that if a sub-contractor was to be employed by whoever secured the work, approval of him was to be obtained from the architect. That usually signified the execution of a large share of the contract, such as the masonry or bricklaying, the carpentry, or the plumbing. But with regard to those items in the bill of quantities which it was well known an ordinary builder could not manufacture, the general contractor was permitted to select them from anyone he pleased.

The first specification which Professor Donaldson gave was one by Messrs. Wyatt & Brandon for the Wilts County lunatic asylum. For the drains four firms are mentioned from whom the glazed stoneware might be taken, one being Messrs. Doulton. That was a good arrangement, for the firms were of standing, and it allowed the contractor the right of dealing with whoever supplied drain-pipes on the most advantageous terms. A certain ball-valve was to be used with each of the slate cisterns, but for the numerous other things required the contractor had the fullest liberty of selection. In the specification dated 1830 for the prison at Tothill Fields, the site of the present Westminster Cathedral, there is a good deal about Roman cement, to the effect that it was to be by some known manufacturer of repute. One instance suggests what that signified. In a prison we expect Shylock's rule about "fast bind, fast find" to be imperative. We read in the specification about "12-in. iron rim locks with patent wards and tumblers, with case-hardened keys in suit, &c." It is said that they are to be made by Chubb, or equal thereto. Robert Abraham, the architect, should have been more definite, and when he selected a particular lock he should not allow the contractor to depart from it. That phrase "equal thereto" has caused many failures in building. In the great work of the Houses of Parliament, those who supplied specialties had little chance of displaying their skill. Only one instance is worth mentioning. It was decided to employ Barrow & Turner's patent metal sashes, but the contract for the supply and fixing of them was given to somebody else. Charles Barry was in favour of the old method, and he preferred that Messrs. Grissell & Peto should tender for the whole of the works. He recommended the acceptance of their tender for the iron roofing, although considerably in excess of the amount which a firm in Dudley would charge.

We need not, however, examine the old specifications more closely. They all appear to have been composed in a belief that whatever was desired could be supplied by the general contractor, and that it was not the business of the architect to interfere with his arrangements. Only in rare and exceptional cases was it considered desirable to particularise any special appliances or class of goods. Tite's specification for the new Royal Exchange is described as very remarkable, because it departed from precedent and embodied to a great extent the bill of quantities with the description of the works. There is a surprising amount of detail in it, but Claridge's asphalte is the only instance of a special article being named. We might suppose that the workmen of one firm carried out everything unaided. The name of the sculptor is not given in the specification, although sums of 9,691*l.* 14*s.* 9*d.* and 3,500*l.* were to be provided, together with a further sum of 500*l.* for modelling. It might be imagined that Tite had not fixed on a sculptor or was afraid to wound the contractor's susceptibilities by naming
as a sub-contractor.

We can see a survival of the old system in
houses which builders raise as a speculation. S
things as kitchen-ranges, baths and other sanit
appliances, grates, &c., will be found to be with
names inscribed on them, for the builder is jealous t
a purchaser should know what firms co-operated v
him. Sometimes there is a sacrifice to expediency
obtaining a bath or a closet from a firm known for g
work and which will bear their name. But tha
intended to induce people to believe everything in
house is of a like character.

Modern architects have a different method to tha
the men whose specifications were printed as models
Donaldson. There can be no denying that many ar
tects in our time would gladly arrange for separate c
tracts if it were not for the fear of difficulties wh
would end in litigation. There is no longer the sa
confidence in the general contractor as a universal p
vider. In the old days he was the master of
situation, and could make use of such goods as
preferred. An architect will now insist on the
ployment of the materials or the appliances wh
he considers to be best adapted for the occasi
Indeed, it might be said that the great differe
between an old and a new specification is
direct description of specialties to be found in
latter. The inventor or the manufacturer has the
fore simply to convince the architect of the exc
lence of his products instead of employing the primit
diplomacy necessary to persuade contractors throu
the medium of foremen and clerks. There is c
sequently a chance for anyone who can produce
improvement in any of the numerous elements wh
constitute a modern building. Donaldson believed
lived in an age of improvement on account of "
general employment of concrete, the enlarged int
duction of iron, the use of glass, the more skil
combinations of timber construction and scaffoldin
The evidence which could be given of improvement
the present time, if arranged in alphabetical orc
would exhaust the alphabet, for it might begin w
asphalte and go on to zinc. The general contracto
work in excavation, masonry and bricklaying, carpent
slating, plastering, &c., remains where it was fifty ye
ago. What makes a building suitable to mode
requirements is the adoption of the works of men w
were long ignored.

We have referred to the difficulties which law
supposed to offer to the proper recognition of su
contractors, including under that name those w
supply specialties. General contractors do not fu
realise the change which has taken place in build
arrangements. They imagine that they are like th
predecessors, and can supply everything which
demanded in the most modern building. They look
the specification of flooring or ironwork, windo
ranges and fittings as an invasion of their rights. T
spirit of the master is quickly caught by those who a
employed by him. Sub-contractors and their men a
in consequence often compelled to do their work und
difficulties. The general contractor is, moreover, rar
prompt in dispensing the money which he has und
taken to "provide" for specialties. Sub-contracto
hesitate about raising complaints, for there is a gene
belief that architects dislike to be worried over wh
may appear to be the pettiest of squabbles. It mu
also be allowed that there is an anomaly in the Engl
system of carrying out work by contractors and su
contractors. The contractor believes he is responsi
for the sub-contractor's work, although he is unable
insist on its performance in a different manner. T
legal relations between the two are so uncertain t
both parties must be doubtful about their positi
Even a building-owner, who eventually has to pay
all, must be extremely guarded in his conversation w
a sub-contractor.

The important question, however, is whether con:tors for specialties should be described as subtractors. They are as independent as the general tractor himself. It is true that their work is supplentary to that which is usually known as construction, l they are seldom paid directly by the building-owner. : there is always a risk, especially in courts of law, :onfounding them with men who enter into an agreent with the general contractor. It is only in theory t any resemblance can be found between the two. A nedy would, of course, be provided in making special eements with contractors for specialties. But that uld involve an increase of expenses, for lawyers uld be likely to draw up long deeds in order to ure against risk. Abroad and in the United States system of having a single contractor is not adopted. hough it may have answered well in the past in this ntry, it is not adapted to a time when a building is work of a great many separate contractors.

JEAN GOUJON.

N the last number of *L'Art* M. Henry Jouin, the secretary of the Ecole des Beaux-Arts, has comted his series of chapters on Jean Goujon, the lptor. Among all the French artists there is not a n whose life is worthier than Goujon's of the attention the biographer, and especially of one who follows dern systems of inquiry. It should be remembered t his career is full of mystery. Hitherto he has been own by his works and by the legend that as he was Calvinist he was shot as he stood working on a ffold on the day of the massacre of St. Bartholomew, August, 1572. At one time it was supposed he was gaged on the Louvre when slain, while others mained he was carving some of the figures at the beautiful intain of the Nymphs, which is now called the ontaine des Innocents," near the Halles in Paris. But the fountain was known to have been completed some rs earlier, it was taken for granted that he must e been employed on the decoration of the court of Louvre. Like other artists of the Renaissance iod, Goujon is presumed to have been an architect vell as a sculptor, and the Hôtel de Carnavelet, which now the principal municipal museum, is said to have n erected from his designs. There is no doubt he rned the building with beautiful reliefs and other ires. But it is uncertain whether he can be arded as the architect. He was undoubtedly the atest of the French architectural sculptors.

If the events of his everyday life are unknown it is sible to understand the characteristics of Goujon's ks, or at least as many as suffice to give him own. He produced the sculpture of the Château couen, for the Constable Montmorenci ; the sculpture the Château d'Anet, for which he received the comsion from Diana of Poitiers or from Henri II. ; the ontaine des Innocents," a large part of the exterior lpture of the Louvre, besides works like the caryatids the *Diana*, which are preserved within the building ; figures of the Porte St. Antoine, which are now in goulême. It is not necessary to mention the other ks which are ascribed to him. Those which are wn as authentic must all be regarded as masteres, and France after more than three centuries cones to value them as priceless examples of art.

It is strange that investigation cannot solve the stery of his training. There is a tradition in Rouen his first master was a Norman sculptor called esnel. His style, however, does not recall any Mediæinfluence; it came nearer to Greek work than any temporary sculpture. He could not have seen ny of the great examples of Classic art, and we st therefore conclude that his ideas were derived n a study of Italian examples. The difficulty is not vever removed, for there is no evidence that he lied in Italy. It would not be impossible for a sculptor of his dexterity to work his way there. Francis I. brought many Italian artists to Fontainebleau. There was likely to be a freemasonry which bound Frenchmen and Italians, and it would not, we think, be difficult for a young man who showed his love for Italian work to obtain introductions by which he would gain admission to foreign studios. For a long time the *Diana* was considered to be a work by Benvenuto Cellini, and it reveals the general resemblance in many of Goujon's works to those of the truculent Italian's. It will bear comparison with the latter's *Nymph* at Fontainebleau. A Greek sculptor would not have treated one of the legs of the goddess in the awkward manner adopted by Goujon, for the left leg is turned back to an extent which a model's sinews would not allow, but otherwise the figure is of immense value.

It was fortunate for Jean Goujon that Pierre Lescot, the great architect, was able to discern his genius. He employed him on the Louvre. The prices he received for his sculpture would now seem very low and far beneath the proper value, but there may have been considerations of which we have no knowledge. For each of the caryatids, which are about 13 feet high, he received for carving 580 francs. For the model he was paid 331 francs, and it had to serve by a change of drapery for the series of four. Evidently Goujon was able to realise that a caryatid, and especially one in the form of a woman, was out of place when supporting a weight. He has elaborated the drapery to a remarkable extent, and the vertical folds appear as so many props. The arms are cut off from a little below the shoulder. The impression conveyed is that the sculptor presented conventional figures, and not portraits of Greek women like those in the Erechtheum. In the sixteenth century the Italian sculptors produced no figures equally satisfactory for the purpose.

It is worthy of note that about the time when Goujon was executing his caryatids he was arrested at Etampes, the place where he also had a commission to adorn the mansion of Diana of Poitiers. He is described as "Jehan Goujon, sculteur du Roy au Louvre, prissonier." He presented a petition that he should be liberated, promising to appear in Paris, and if failing to take the consequences. He entered into bail, and no doubt was able to attend on the appointed days, and otherwise to comply with whatever the law required. Strange to say, although the summons was duly registered, there is no record of any further proceedings. It may have been only a simple case of debt, for on September 27, 1555, Goujon received 560 livres for his works in the Louvre. It would be strange if so great an artist working at the Royal palace should be unable to pay a small sum which he owed. At any rate, it must be evident that Pierre Lescot insisted on the presence of his sculptor in spite of judges and bailiffs, for during his absence we may be sure the stonecutters did not fatigue themselves.

It is now impossible to say how much of the sculpture of the Louvre was executed by Jean Goujon's own hands. He could no more carve all the ornament and figures than Phidias could have produced the whole of the Panathenaic frieze and the metopes and pediments of the Parthenon. Certain figures, especially those flanking the œils-de-bœuf, by their peculiar drapery, must be his work. But in other parts journeymen sculptors were likely to have been employed.

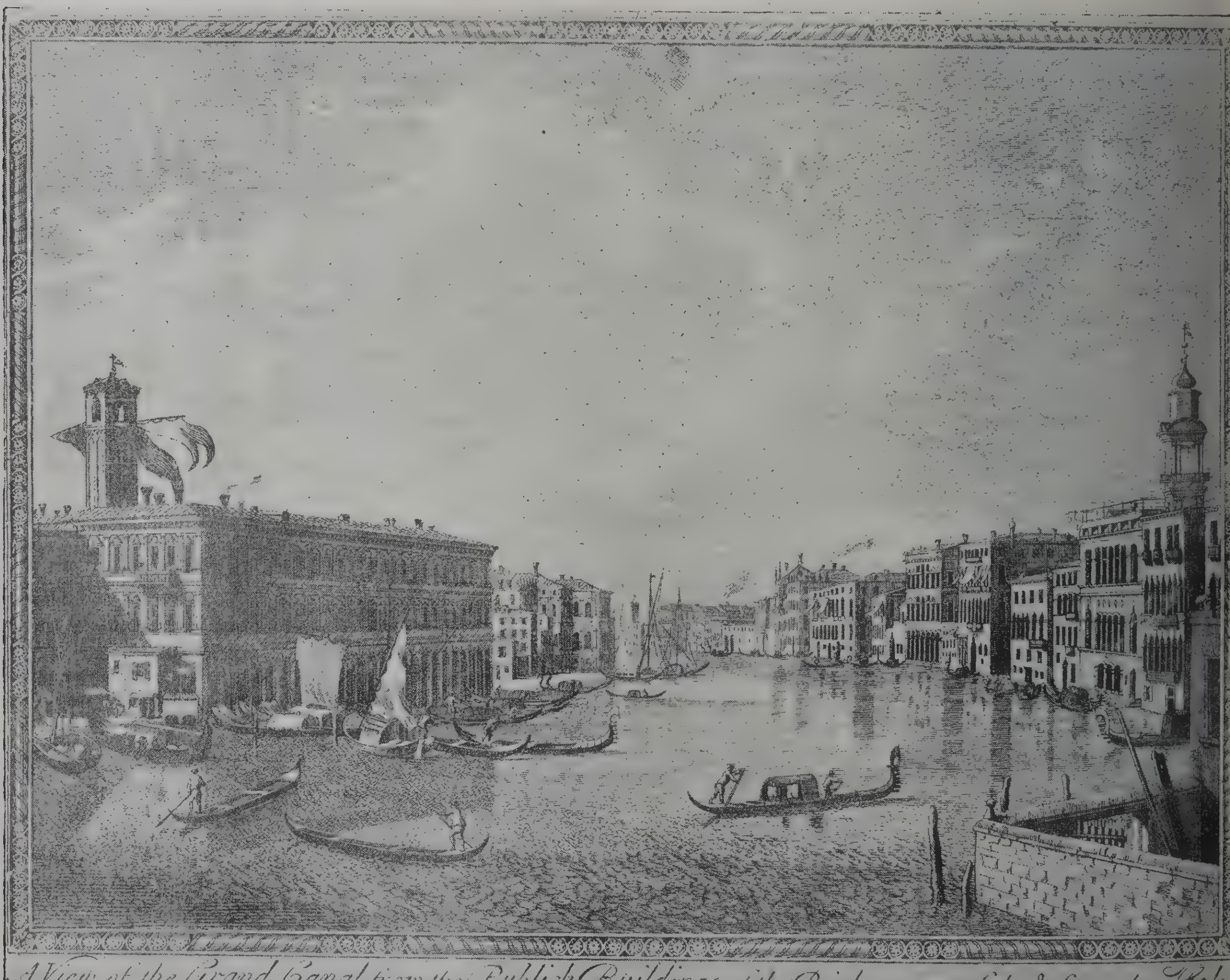
Jean Goujon had to leave Paris before the decoration of the Louvre was completed. There are various entries of payments to him, the last being on September 6, 1562. The amount was 716 livres. The massacre of St. Bartholomew did not take place until ten years afterwards. If Goujon was one of the victims, where was he during the interim? It must be remembered that in 1562 the Huguenots were made to suffer, and it is remarkable that there is mention in that year of a Jean Goujon who suffered for his faith. He perished in the flames while exclaiming "Lord, have mercy on me!" The martyr was, however, a worker in wool. It cannot be ascertained whether the victim was a relation of the sculptor, but his fate was likely to compel Jean Goujon to reflect on his position. He fled from France and died in Italy. The discovery of this fact is due to M. Tommaso Sandonnini, of Modena. In that city the Inquisition held inquiries relating to the Protestant refugees in Italy. One of the inculpated was Laurent Penis, of Fontainebleau, an engraver on wood and copper. He was employed in various cities of Italy. Among those for whom he worked was a firm of publishers of engravings in Modena. Owing to some dispute between them Penis was denounced as a heretic. He was first examined in 1568; he had to tell the story of his life. He stated that he had lived in Bologna for nine or ten months, and among other places he lodged in a house with "Maestro Gio Goggion, Francese, intagliatore de releve," *i.e.* with the master Jean Goggion, a Frenchman, a sculptor in relief. In another examination he referred to Goujon as being then deceased. There seems to be no doubt from the statement that Jean Goujon's term of exile and his earthly life came to an end between 1564 and 1568, but of him it can be truly said, "Dead he is not, but departed—for the artist never dies."

M. Sandonnini's discovery dispels a legend that was long accepted, but it cannot be claimed that much is gained. The slow death of exile would perhaps be less desirable to Goujon than receiving his quietus from *un coup de carabine.* The French king and his satellites were as much murderers in one case as in the other. France lost a great artist, and it could not be said that Jean Goujon was guilty of any worse act than adherence to the doctrines he believed. M. Jouin has done useful service by renewing the interest in sculptor's history. He conveys a lesson in tole tion which Frenchmen would do well to take heart.

CANALETTO'S VIEWS OF VENICE.—X.

THE view of the part of the Grand Canal which publish is one of those which must distress lov of uniformity, who would have thoroughfares of kinds lined with buildings of one pattern. Fortunate there was no building law or principle of æsthet accepted in Venice of that kind. It will be seen th Moorish and Gothic façades appear in company w others of a Renaissance type; and the picturesquen of the Grand Canal is in a large manner owing to contrasts offered by the structures. The erud Valery has recorded his impressions on passing alo the Canal at a time when Venice was in a less prosper condition than it was formerly or is at present:—

"The Grand Canal, bordered by magnificent mar palaces, erected in the course of ten centuries by the b architects, would be, if paved, the finest street in world. These palaces of different ages exemplify progress of Italian art, and form a vast, majestic a instructive gallery of architecture. By a whimsi refinement of luxury and grandeur the mud-buried pi work of some is composed of the precious wood Fernamluca; so that the foundations were neither l splendid nor less costly than the marble and colum of the sumptuous superstructure. There is a soft a melancholy pleasure in gliding along the Grand Can in wandering amid these superb palaces, those ancie



A View of the Grand Canal from the Publick Buildings of the Rialto on one ſide, & from the Holy Apostles on the other, to the Palace of Grimani.

ristocratic dwellings, which bear such fine names and re the memorials of so much power and glory, but re now desolate, shattered, or in ruins. These Moorish windows, these balconies whence the fair Venetian, shut up like the Eastern dame, but volatile s the European, appeared to her lover as he reuctantly retreated in his gondola, are now dilapidated, without glass, or rudely boarded; some few of them which are in good condition only bear the inscription of certain administrative or financial authorities of Austria, or the national arms of some indolent consul. n the midst of this destruction, the gardens (a singular ircumstance) supply the place of buildings at Venice. t is just the reverse of Paris, and I recollect that when eeking for the house of Titian I only found in its place he wall of a garden in a little blind alley ostentatiously alled the Strait of Gallipoli. The desertion of the Venetian palaces began in the eighteenth century with he fall of the Republic, when the degenerate patricians preferred lodging in a casino near the Piazza of St. Mark to inhabiting the ancient palaces of their athers, too great for their littleness. What public morals could be expected from the senator who, lothed with his toga and the pompous inignia of his dignity, had acted in person as he croupier at the chacho table; or from those patricians, one of whose privileges was to open gaming-houses and who attended there in their magiserial robes? We are told that they unanimously renounced their lucrative privilege when gaming was bolished, some time before the fall of the Republic; but it is probable that the mischief was done, and it was too late for them to return to the exercise of more serious and elevated sentiments. The gaming of he Venetians, pretend the defenders of its ancient *égime*, aided the development of moral courage; they were renowned for the almost stoic impassibility with which they lost or won the most enormous sums. That ind of daring which risks a fortune on a card may show rmness or energy in individuals, but it must be the uin of society, and the habit of relying on chance is particularly injurious in a political point of view."

THE TRAINING OF ARCHITECTS.*

IN no other profession of equal importance has the training of its adherents received so little consideration from the hands of the public. In law and medicine some ualification is required before the student is allowed to commence practice, yet in architecture, which equally concerns the health and comfort of human life, "any one can all himself an architect," as recently stated by a judge in England. On this account the profession is not held in the steem it should be, and the public are not protected from unqualified and untrained men.

Much has been said of late of the influence of environment on the mind and life of the people. If what has been said is true, what an important part architecture must play in the education of the mind, for just as the beauties of ature or the work of the artist contribute to our welfare, so must the buildings in which we spend so great a part of ur lives, and those on which we gaze in our daily walks, ave an ennobling influence, if they are places of beauty in the best sense of the term.

Definition.

Opinions differ as to what architecture is. Architecture may be defined as sound building, for no building that is well built can be without beauty, proportion and fitness for the purpose for which it was intended. Ruskin's well-known definition of architecture is perhaps as comprehenve as any. He says:—"Architecture is that art which so disposes and adorns the edifices raised by man that, for whatsoever uses, the sight of them contributes to his mental health, power and pleasure."

Architecture is the mother of all the arts and crafts, for the beginnings of architecture are found in the first habitaons of man, which he erected to shelter himself from the seasons. These created a necessity for the design and construction of buildings in their simplest forms. As civilisation developed and the improved environments of life demanded better homes and conditions of living, so architecture grew and triumphed. To view it rightly, architecture is a great art—a noble art—an art which speaks through centuries of the character and history of nations. Through it we learn of the refinement of the Greeks, the triumphs of the Romans and the religious aspirations of Mediæval times.

Vitruvius and the Curriculum.

The many necessary qualifications of the architect, as enumerated by Vitruvius, cover a large range of subjects. He says:—"Architecture is a science adorned with much and varied learning. . . . Practice and theory are its parents. . . . An architect should be ingenious and apt in the acquisition of knowledge; he should be a good writer, a skilful draughtsman, versed in geometry and optics, an expert at figures, acquainted with history, informed of the principles of natural and moral philosophy, somewhat of a musician, not ignorant of the sciences both of law and physics, nor of the motions, laws and relations to each other of the heavenly bodies. Law should be the object of his study."

The knowledge of the modern architect covers a wider field than that laid down by Vitruvius. To the subjects mentioned by the latter he must add the many branches of learning consequent on the progress of modern times, which have forced upon us new forms of construction and new problems in planning in consequence of the development and advancement of science.

In the eyes of Vitruvius the architects were the engineers as well. They designed the viaducts, bridges, roads and other constructional works. These have now resolved themselves into separate professions, on account of the progress of civilisation with the accompanying need for specialisation consequent on the many new fields of study. But a knowledge of construction and engineering are equally necessary, which have been opened up as qualifications for the modern architect, for he has to construct his domes, flying buttresses, spires, steel buildings and other similar works.

General Education.

The first essential in the making of an architect is a liberal general education, to assist him in his professional work and to train his mind in the art of learning and thinking, and give him a broader view of his profession. There is a tendency amongst a small section of the profession in England to make the door of entry thereinto too narrow, by insisting on such a standard of education as would debar, perhaps, many a genius, who would be thus lost to the profession and miss his calling in life.

Pupilage.

The old system of pupilage is slowly dying out, for as schools of architecture are being multiplied, students are able to attend the classes, and thus obtain a thorough grounding in the elements of their profession before entering upon their practical work in the office of an architect. The Architectural Association's day school in London is chiefly responsible for this welcome change. The school is opened to enable students to study the principles of design and construction, together with the study of the history of architecture and its development in different countries. Two years' attendance at such a school should be made by the student, who will thus equip himself for his more advanced work in the architect's office. The advantage of such study is obvious, as the student thereby learns to translate the problems in planning placed before him with an ease which greatly facilitates his progress in after life. There is a crying need for a faculty of architecture to be fully developed in connection with our university colleges, technical institutes and schools of art in South Africa. Till some additional means are provided to enable the young South African architect to obtain a proper theoretical training, we can only hope to turn out rule-of-thumb men.

The ideal architect should be an artist, scientist, engineer and constructor.

Artist.

The architect must be full of the essence of art, for, unless he is, his work will not be noble. He must be acquainted with the most beautiful forms in which to clothe his buildings, and must be able to judge of the complete order and the blending of his colours in the final result of the work he undertakes.

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* A paper read by Mr. R. G. Kirby before the Educational Section of the British Association at Johannesburg.

Scientist.

The architect must of necessity be a scientist. Pure science should receive more consideration than it has had in the past. It is unjustly charged by some to be a destroyer of art and of the æsthetic ideals of the designer, but he who studies nature must study her mechanical and constructional principles as well as her æsthetic laws. A student should be taught the physical properties of building materials and their geological structure; he should take a course in chemistry, which would aid him to employ the materials most suitable to the various environments and also to detect defects and impurities.

Acoustics (one of the most difficult branches of physics in its application), together with a knowledge of the movements of vitiated air, will enable him to understand more perfectly the principles underlying a much-neglected branch of his work. The laws of light and heat contain many applications in architecture, the effect of the latter on iron and steel structures being of great importance. A course of magnetism and electricity will help the architect to carry out his electric-light installation in a proper manner, and it is needless to emphasise the value of a mastery of the laws of mechanics and graphic statics, for without a knowledge of these how could an architect construct? Just as a painter profits by his knowledge of anatomy, so does an architect by a knowledge of his materials, their strengths and uses, and only thus can he make science the handmaid of art in the achievement of his great ideals.

Engineer and Constructor.

The architect must also be an engineer and constructor as well as a pure scientist. The works of the Egyptians reveal some great feats in engineering, such as the lifting of large stone slabs, weighing many tons, to the top of their temples, such feats as would daunt the courage of many a modern engineer. What greater daring can be found than in the mighty domes of St. Peter's in Rome and St. Paul's in London, erected with their wide spans at such great altitudes? And does not the Gothic spire as a finger pointing to heaven give us high ideals, while such works as the poising of the lantern of St. Nicholas's Church in Newcastle-on-Tyne—a weight of over 70 tons resting on slender ribs—fill us with admiration for their engineering and constructional triumphs.

Such works as these do not by any means exhaust the list of possible subjects of the modern architect, and in order to be able to execute them he must be an artist, scientist, engineer and constructor, and must keep himself in touch with the advances and changes which are continually taking place in each of these branches of his profession. To accomplish such works as these he will need to have a large storehouse of information to draw from at a moment's notice to meet the various requirements of his clients.

There is a tendency amongst modern architects to specialise, and this the average man cannot afford to do. He should avoid being "Jack of all trades and master of none," yet he should at least make it his aim to "know a little of everything and everything of something," as recently stated by the President of the Royal Institute.

History of Architecture.

Before a student can attempt to design any building he should study the origin and evolution of the various styles of architecture in all countries, which is one of the most fascinating branches of his profession and of vital importance. He should also make himself acquainted with the many influences which determined the architectural development of each country, the state of society at the time, the religions of the people, climatic conditions, materials available and other causes which in a large measure controlled the designs of the architects. In the study of ancient buildings he should not forget that although they were suited to their times, many of them would be unsuitable for the needs of the present day.

The student should be thoroughly acquainted with all the various styles in all ages and master their characteristics, but he should avoid thinking too much in "set styles." In designing modern buildings he should take as broad a view of historical architecture as possible, and not endeavour to reproduce any one style with a mathematical and lifeless correctness in his work. A mastery of the spirit, and not so much the style, in which old buildings were erected will undoubtedly give him originality in his work.

The Order.

The success of the Renaissance architects lay in this. Although they studied old work they did not attempt to reproduce it; they did not sacrifice their buildings to archæological correctness, and this resulted in their producing a new style suited to the requirements of their time. Since the introduction of the order into architecture, it has become a part of it; its influence in the expression of our buildings has always been felt, and perhaps always will be, although, maybe, modified to some extent. It is undoubtedly the most perfect feature in giving the suggestion of support to a building that has ever been designed.

The methods usually adopted for teaching the orders are misleading to the student. He learns to draw the order from a flat copy, without due regard to its relation to the whole building. He is taught nothing of its evolution, but is led to imagine that it sprung into existence all at once. He is not led to study the growth of so wonderful and perfect a production. He should be taught from models illustrating its constructional use and its general effect, rather than minutely drawing the sizes of mouldings and the various parts.

Studying Old Buildings.

Another valuable aid in designing is the sketching and measuring of old buildings, which will give a student much recreation from his work, and provide him with many a pleasant and instructive holiday. The South African student is practically deprived of this instruction when compared with the student in England, who has many valuable examples of old buildings to study from. He should thoroughly analyse the building he is studying, and ascertain the underlying principles of proportion and fitness which give it the power and life it possesses. A great deal of time is often spent in preparing an elaborate drawing of a small section of a building without any regard to its relation to the whole structure, and in this way many a valuable lesson is lost. The details and mouldings should also receive attention, more especially as to their varying sizes in proportion to their distance from the eye and their relation to the complete work.

Design, Drawing, &c.

It is, perhaps, hardly necessary to say that before a student can delineate his ideas on paper, he must be able to draw well. Though to be able to draw well is an invaluable aid in designing, drawing should be looked upon as a means to an end, and too much importance should not be put upon it. It is the completed work which gives us the best idea of what was in the mind of the architect, and not so much the drawings. Ruskin tells us that "Drawing may be taught by tutors, but design only by heaven." Whether design is an intuition or not, the underlying principles must be taught to the student, the cultivation of which will enable him to present works worthy of consideration.

In order to design well it is necessary to acquire the habit of thinking of the building with its environments as a concrete whole and not as separate plans and elevations. If this habit is cultivated, it will give a student such a grasp of his projected schemes as to enable him to quickly overcome its difficulties. The disappointment we often feel in our buildings is due more to their having been designed as separate elevations. How often is a building spoilt when seen from an angular view which appeared to be all that could be desired on paper? We see at once that the grouping has not been thought out, nor has the massing together of lights and shades which give it strength. A rough perspective sketch of a doubtful part or moulding will bring out all its weaknesses and thus prevent many a disappointment.

Detail, Sculpture.

Sir Christopher Wren never troubled about his details until he had arrived at a thorough conception of the main ideas of his design. Although details should not be studied to the sacrifice of the general principles, yet no building possesses character without well thought out detail. This is where so many buildings fail; the detail is coarse and vulgar, and bears evidence of the untrained mind. A student should have a thorough mastery of his detail; he should know at once how a feature will appear at a height of, say, a hundred feet from the street level.

Modelling in clay will be of great assistance to the student, in enabling him to correctly judge the necessary reliefs, depths and sizes of the ornaments which form part of his building. It may not be necessary for him to do the modelling or carving, but he should be able to tell when the work is well done and thus prevent the employment of sculpture which may not be in sympathy with the general design.

Decoration.

Decoration is as much a part of a building as its construction, and should not be considered as merely an addition in the form of ornamentation. The range of subjects in decoration will extend from the whitewashed cottage to the glorious domes with their rich mosaics. Materials should be treated sensibly, and should not suggest want of fitness in their use. The harmony of colours should be studied, with their proper relations one to another and the effect of light and shade upon them, and their change of hue when lightened or deepened, for a good colour scheme requires much thought and knowledge in its application. A student should master these principles in order to obtain harmony and balance in his work.

Visiting Works.

There is no better method of obtaining a practical knowledge of building construction than that of visiting good works whilst in progress. Lessons will be learnt which no books can teach in the supervision of apparently such minor details as the mixing of concrete, &c., and so throughout the supervision of the whole work he will acquire invaluable knowledge. Such knowledge will not only make the student's progress more rapid, but will shed a light on many a difficult problem in his future career.

Examinations.

To gain such knowledge as has already been mentioned the student should have some incentive and guide, and he cannot do better than prepare for the examinations of the Royal Institute of British Architects, as the training necessary to qualify for their examinations is almost as liberal and comprehensive as it is possible for it to be. As already stated, there are practically no existing facilities in South Africa for architectural students to obtain the necessary training, although the R.I.B.A. have consented to hold examinations here. It is time that properly organised and equipped schools should be started in order to give the son of the soil the same privileges as are afforded in other countries.

Courses should be formed in such subjects as history of architecture, architectural design, the properties and strengths of building materials, building construction, graphic statics, steel construction and fireproofing, sketching, studio work (including freehand drawing, modelling, &c.), sanitary engineering, perspective and solid geometry, together with some business training.

We are glad to notice that an attempt is being made to partly meet this need by the Transvaal Technical Institute, and it is to be hoped that the adjoining colonies will follow her example.

Practice.

An architect's training may be said to have begun on his passing his examinations, and in the many problems which arise in practice under specialised planning in the various branches of his work he will find more scope for learning than his lifetime permits.

His knowledge must include the requirements of a variety of buildings, such as libraries, museums, municipal buildings, various schools, laboratories (together with their fittings), asylums, hospitals, business premises, churches, central power stations and factories (with their mechanical plant), and his knowledge must also include the latest forms of construction, such as steel and armoured concrete, which require fresh garments to clothe them in. A country house will need its water supply and light, and its sewerage must be disposed of on bacteriological or other improved methods, each branch of which has become specialised.

Legal Mind.

Besides his qualifications to design and erect buildings and other structures, the architect must possess a legal mind, for he holds the balance between the client and the builder in the position he occupies as arbitrator, and in dealing with an exacting client or unscrupulous builder his task is no light one.

A school of architecture, besides dealing with scientific and artistic sides of the profession, should also train the student in the legal aspect of the profession.

Aim.

In every work attempted, in all its details, the student should have a high aim. He should give of his best in endeavouring to make the simplest work he undertakes a thing of beauty. He should make the pursuit of architecture a pleasure to him, for when viewed rightly it is an ennobling profession. To the true architect profit-making is not the chief end, and there are pleasures to be derived from his work which no money can buy. What greater pleasure can there be than in looking upon one's completed work and knowing he has done his best—like the late Mr. Bentley, who was seen standing under the shadow of his great and noble work a few days previous to his death and gazing long and earnestly upon the realisation of his ideals?

What greater opportunities can there be for architecture than in a new country like South Africa, with its present buildings as but a drop in a bucket when compared to the possible designs of the future? As the character, social life, wealth and religion of each country is portrayed in her buildings, so the future of South Africa should be indelibly written in permanent structures in the best styles and by the best trained architects.

FORDELL CASTLE.

THE Dunfermline Naturalists' Society recently visited Fordell Castle and grounds. The latter have long been celebrated for their great natural beauty, while the old gardens are famed for the exquisite taste with which they have been laid out. Mr. Henry Beveridge, says the *Dunfermline Press*, gave an account of the castle. It occupies the site of a still more ancient stronghold. Formerly it presented an appearance of much more importance, as it was surrounded by an outer wall which contained several subordinate buildings, including the ancient chapel dedicated to St. Theriot, now rebuilt. The castle stands upon the southern edge of a deep and picturesque glen, through which flow the waters of the Keithing burn. The present castle seems to have been erected between the years 1567 and 1580, both of which dates appear upon the building—the earlier date over the doorway of the north-west tower on the lower margin of the handsome panel which bears the arms of the Hendersons, while the date 1580 appears upon a skew at the north-east corner and also above the doorway of the south-east tower. According to McGibbon and Ross, Queen Mary is known to have visited Fordell on the occasion of the marriage of George Henderson, then Laird of Fordell, to one of her maids of honour. The castle is built upon what has been called the Z ground-plan—that is to say, the main building is a long rectangle, while a tower is projected at each of two corners diagonally opposite. This scheme of building is specially characteristic of Scottish castles of the latter half of the sixteenth century, and was evolved for the purpose of thoroughly defending each of the four sides of the castle by gunshot from the corner towers. In the castle of Fordell an entrance exists in both of the towers, a somewhat unusual arrangement in these fortified houses. The second door was doubtless intended for the service of the kitchen—a concession to convenience. The north-west door is defended by a strong iron yett, or grating, formed of pierced and interlaced bars welded on the margin. It opens on a corkscrew stair, which continues to the roof of the tower. On the ground floor, which for the sake of security is vaulted throughout, are three rooms—the kitchen to the east, while to the west is a room conjectured to have been used as a wine cellar, communicating with the great hall above by a special stair. At present, however, it contains a good example of that now long-abandoned instrument of torture, the stocks, capable of securing the legs of two prisoners, and also an iron contrivance called the branks, adapted to contain the head of a scolding woman, while within an iron rowel is fixed well calculated to reduce her unruly tongue to silence. These facts would rather suggest that the room had been used as a place of confinement for the prisoners of the laird, who possessed a right of heritable jurisdiction, including powers of pit and gallows.

The castle has long remained uninhabited, and contains but few objects of interest. Among those, however, may be mentioned the tapestries, long since transferred from Pitreavie Castle. These are still in good preservation, and possess considerable antiquarian value. The subjects are scriptural and mythological. The north-west tower commands a very extensive view, though to-day considerably encroached upon by a plentiful growth of magnificent old trees. On the summit of the tower is to be seen an iron beacon brazier, by means of which, no doubt, in the old days the inhabitants could communicate, in case of need, with neighbours both on the north side and south side of the Forth. The roof, the wood of which seems considerably more recent than the castle itself, is covered with flagstone slates, while the ridge is formed of freestone cut to Λ section. The ridge is interrupted at intervals by stones displaying the crescent and star pertaining to the family arms.

NOTES AND COMMENTS.

The announcement by Mr. Tree on Monday night that it would be necessary to close His Majesty's Theatre for several weeks, in order to remedy some defects in the proscenium arch, should be taken as evidence of the desire of London managers to secure the safety and comfort of their audiences. There is a too general belief about the indifference of managers, and that without official interference theatres would be allowed to remain in a risky condition. That is an absurdity, for other managers would, we are sure, act in an emergency exactly as Mr. Tree has done. The theatre was opened in April 1897, and can therefore be considered as a new building. The defect which has occurred does not necessarily involve any dangers either to the performers or to the audience. It was not discovered by any official inspector, and Mr. Tree only heard of it on Monday evening. But the falling of a little plaster is sufficient to alarm a modern audience, and Mr. Tree acted wisely in preventing such a possibility. Under the circumstances he has the good wishes of all playgoers, and we hope a closer examination will demonstrate that the defect is of a trivial nature.

There can be no question about the advantage of having an architect on the building committee of a corporation or district council. His practical experience would often enable him to render services to the inhabitants. But, on the other hand, he ought to be free from prejudices, and should be in a position which would make him incapable of feeling envious of another architect, and he should have no interests of his own which he is desirous to promote. Probably it is impossible to find a man who has the desirable qualities as well as the necessary spirit of abnegation. A curious case occurred this week at Worksop which suggests the difficulties of an architect when he is a member of a local board. A banking company desired to erect premises in Worksop. The site was so expensive that the requisite area of air-space could not be provided at the rear of the premises. The building committee approved of the plans, knowing the circumstances of the position. But the chairman of the committee declined to follow the usual custom by moving the adoption of the recommendation. Another member took his place, and Mr. Shardlow, the architect for the proposed building, and who had drawn the plans, seconded the recommendation. He regretted the opposition of the chairman, Mr. White, who, he said, had declared he would oppose every plan sent in by Mr. Shardlow. This was denied by Mr. White, who asserted that no man had sent as many plans in wrongly, or contrary to the by-laws, as Mr. Shardlow. He defied any member of the Council to disprove what he had said. He questioned very much whether Mr. Shardlow, as financially interested in those plans, had any right to second the proposition that the plans be accepted. Any man sitting on the Council and consulting his own private interests instead of the ratepayers' was not worthy to be a representative of the ratepayers. Another member expressed a desire that the building committee would resign in a body, so many of them were interested in building. There might be a suspicion of Tammany Hall methods, and a new committee was desirable as soon as possible. It was finally decided to send back the plans for further consideration. In all public bodies a man must expect to give and receive hard knocks, and there is no reason why an architect should not serve his fellow-townsmen as a representative. But as a suspicion exists that private interests are often uppermost, it is as well that architects in practice should be proof against the wiles of electors and restrain a desire to appear as "a public man."

In the course of next month fire tests of various concretes will be undertaken by the British Fire Prevention Committee, with a view of comparing the fir resistance of different aggregates when subjected to fir and water under absolutely identical conditions, th aggregates being those in common building practice, an the cement used being in accordance with the standard of December 1904, known as "Ferrocrete" cement, pro vided by the Associated Portland Cement Manufac turers. Seven floor slabs are to be under test, each slab measuring 3 feet 3 inches by 10 feet 9 inches, and being 5 inches thick. The slabs will be placed sid by side over one of the committee's testing chambers thus forming a floor, the sides of each slab being sup ported by encased girders. The concrete aggregates of each slab are as follows:—(1) Slag concrete, (2) broken brick concrete, (3) granite concrete, (4) burnt ballas concrete, (5) coke breeze concrete, (6) clinker concrete (7) Thames ballast concrete. With the exception o Nos. 4 and 5 each slab will consist of one part cement two parts clean sand and three parts of slag, brick, &c No. 4 will have five parts of burnt ballast to one o cement, and No. 5 five parts of breeze to one of cement The centring under the slabs will be struck fourteen days after completion of each slab. The time for setting allowed before the test will be thirty-five days The slabs will be tested as for the "fully protective" standard (Class A), which means that each slab will be loaded with 2 cwt. per square foot, that the test will be of 2½ hours' duration, that the temperature will be raised to 1,800 degs. Fahr., and that the fire test will be followed by the application of water for two minutes from a steam fire-engine to the fire side (under side) o the slabs. As far as possible accommodation will be provided at this concrete test for the technical officers of public bodies who apply in writing to the Assistant Secretary, 1 Waterloo Place, S.W., before October 7.

ILLUSTRATIONS.

CATHEDRAL SERIES.—WAKEFIELD: GROINED CEILING, ST. MARK'S CHAPEL (MODERN).

WALTON LODGE, BANSTEAD.

THIS house was rebuilt on the site of a former house, some of the old materials being worked in. The whole is rough-cast above the plinth. The roofs are covered with Broseley tiles.

CLOCK HOUSE FARM, WOODMANSTERNE.

THIS house was built on the foundations of the old farmhouse, and it was an interesting problem to fit the modern requirements inside the outline of the old building. The old house contained a large vaulted cellar, which had the reputation of having been used as a smuggler's store. The walls are built with local red bricks up to the first floor; above that they are covered with local tiles, and the roofs are covered with Broseley tiles.

THREE HOUSES, WORCESTER PARK, AND TWO COTTAGES, CHEAM

THESE are planned on the lines of giving a large living-room and a small second sitting-room and four bedrooms. The semi-detached houses cost 520*l.* each; the others range from 600*l.* to 850*l.* The walls are of red brick, the upper part rough-cast. The roofs are covered with Broseley tiles. Messrs. R. Jones & Son, of Sutton, were the contractors for all the houses.

HOTEL RUSSELL, RUSSELL SQUARE, W.C.

HOUSE AT HARROGATE.

PUGIN ON STAINED GLASS.

(*Concluded from last week.*)

THE style of stained glass underwent a complete alteration during the latter part of the thirteenth century, consequent on a corresponding change in pointed architecture. Windows had hitherto consisted of one arch, for where two or three of these were placed contiguously their large dimensions and the great space of stonework between them clearly distinguished them as separate windows. The invention of mullions and tracery divided these arches into different compartments, and the introduction of intermediate supports between the jambs, while it allowed an amazing increase in the size of windows, generally reduced the divisions of space considerably in breadth. It became necessary to fill these divisions with glass whose designs should correspond with their narrow and lofty form, and for which the broad geometrical patterns of the older window were but ill-suited. The introduction of rich pinnacles and canopies, which speedily followed the invention of tracery, furnished the glass-painters with admirable and appropriate designs for the new windows.

This forms the fourth period or style of glazing. Not only were single figures represented under lofty canopies of exquisite richness, but whole subjects in narrow niches on grounds of brilliant colours richly diapered. The introduction of landscape at the back of figures did not take place during the prevalence of this style, but the groundwork or field of the subject was invariably diapered with rich foliage on coloured glass.

I have selected as illustrations of this style a window from the choir of the Abbey of St. Ouen, Rouen, erected by the Abbot Marcdargent, an example of a single figure of large dimensions in a niche surmounted with gablets, trefoils and pinnacles.

There are many truly fine examples of windows of this style to be found both in England and on the Continent. In this country we may reckon the nave of York Minster, where the ancient glazing is nearly perfect, some fine windows in Exeter Cathedral, at Wells, Gloucester Cathedral and Tewkesbury Abbey, where the clerestory windows of the choir are filled with the richest glass of the period. These windows are divided into four lights each, the mullions terminating in flowing tracery filled with fine ruby glass, intersected with vine leaves and branches. Effigies of the Earls of Gloucester, benefactors to this noble abbey, fill the lights, each surmounted by a double canopy of great richness. The figures are all represented in the armour of the period, with surcoats on which their arms are blazoned and holding lances in their hands.

But the most splendid glass of this description formerly existed in the sumptuous chapel of St. Stephen, Westminster, which for elegance of design, richness of detail and costliness of execution was probably unrivalled by any similar erection in Europe. Of all these beauties not a vestige now remains. The last remains of its richly-stained windows were demolished during some alterations directed by the destructive James Wyatt, and the finishing blow to this once glorious edifice was the great conflagration of 1834, when the whole of these ancient palatial buildings was reduced to a heap of smoking ruins.

Numberless examples of this style of glazing exist on the Continent, especially in the cathedrals of Amiens, Beauvais, Rheims, Strasburg, Soissons and Bourges. In this latter church there are 5,592 lights filled with fine glass, of which a considerable portion is of the period I am now describing.

But the most transcendent effects produced by this style of glazing are to be seen in the immense circular windows which, although invented in the rise of the pointed style, only attained their extreme beauty of tracery and magnificence of proportions in the early part of the fourteenth century. Of these windows we have but few examples in this country, those at Lincoln Cathedral and Westminster Abbey being the most remarkable, but at Amiens, Rouen, Rheims and Strasburg we find these gigantic circles of light radiating and blazing with the most glorious effect. What science of construction and profound geometric skill are displayed in thus firmly uniting the many hundred pieces of wrought stone which compose the rich tracery, filling in a circumference in some instances equal to 150 feet, and this, too, at the enormous height where these windows are placed, exposed to the lateral and unbroken force of the severest weather. They are inserted at the end of the transepts, and also at the western extremity of the nave, owing to a peculiarity in the construction of foreign churches which I will now explain to you. In England the west end of the nave is occupied by an immense window, whose arch follows the sweep of the groining, while it is continued downwards perpendicularly till within 20 feet or less of the floor. In the foreign churches the upper part of the west end is ornamented by a rich round window, with three or more smaller lights below it, and the remainder of the space is occupied internally by a magnificent organ and externally by the gables surmounting the deep arch entrances, whose grand proportions render the western fronts of the foreign cathedrals so strikingly beautiful. My own opinion regarding the arrangement of these windows is decidedly in favour of the continental churches. I consider the mass of light admitted through the English west windows far too overpowering. Moreover, the solidity of such immense naves seems to demand a more massive termination than a field of glass, and beyond a doubt the best position for an organ, both as regards sound and effect, is at the western end of the nave, where it may be rendered a most imposing and beautiful feature.

In the next or fifth period a great variation is observable between English and foreign glass, consequent on the introduction of transoms across the windows (which are never found in continental architecture), dividing the lights into short panels, and necessarily introducing low canopies, while the lofty and elegant canopies of the preceding style were retained in foreign windows, although the details varied in accordance with the more florid style which was beginning to prevail. A great preponderance of white and yellow glass began to be used in English windows of this period, which gives them a pale and weak appearance vastly inferior to the rich and brilliant colouring which preceded. This defect is indeed observable in some of the foreign windows of this date, although their general character is infinitely richer than that of the English windows executed at the same time.

Some exceedingly fine specimens of glass of this period are to be found in the collegiate chapels of Oxford and Cambridge, the transept of Canterbury Cathedral, at Coventry, Warwick and many parochial churches. But the windows of Great Malvern Abbey Church are decidedly the most remarkable of the kind in England, which, although much mutilated, still retain considerable traces of their original beauties. In these, however, the defect I have before alluded to of an overpowering quantity of white and yellow glass is particularly striking, as will be seen by the specimen I have selected. This may be considered the last style of glass-painting in England.

During the seventeenth and eighteenth centuries the High Church of England party, who had always retained some latent ideas of religious splendour, began feebly to revive the great works which their predecessors had so wantonly destroyed. The great west window of Westminster Abbey, as well as the rose window of the north transept of the same edifice, were filled with stained glass executed at that time, but of a very inferior description to that with which they had been anciently enriched. After that period many attempts were made in the windows both of churches and private mansions in stained glass, but owing to the absence of all brilliancy in the colours and to the wretched style of painting, the whole of them may be regarded as complete failures. Within a few years, however, a vast step had been made towards the restoration of stained glass to its ancient splendour. Some artists of our days, wisely preferring the imitation of past excellence of others to the perpetration of original absurdities, have arduously applied themselves to the study of ancient works in glass, with the intention of reproducing them, and hitherto the result of their labours has been so satisfactory that it fully justifies us in entertaining the hope of their ultimate success.

We will now revert to the sixteenth century, and proceed to examine the state of glass-painting on the Continent at that period. It is a remarkable fact that, at the very time when the temples of God in this country were being despoiled of their most beautiful decorations by the savage hands of fanatics, the furnaces of the Catholic artists in foreign lands were glowing with the production of fresh subjects to be set up for increasing the glory of religion. The windows of this period were, however, designed on an entirely new principle, and were rendered complete pictures, unconnected in form with the stonework, and appearing as if they passed behind the mullions. Exquisitely beautiful as these are both in design and colouring, it may be doubted with great reason whether the principle on which they are designed is in correct taste. The glazing of a window is decidedly part of the architectural design, and it appears to me that its arrangement, as in the earlier styles, should be rendered subservient to the leading lines of the mullions and tracery, as the total absence of unison between the framework and the glass frequently produces a most confused and irregular effect. Certain it is that this sort of window was never introduced while pointed architecture retained its purity and severity of form. A distinguishing mark of these windows is the constant introduction of the effigies of the pious persons who contributed to their execution, represented with rosaries in their hands kneeling on the lower part of the subject.

Piers Plowman refers to this practice, when he describes a friar soliciting assistance for the erection of his church, in the following manner:—

> Amenden us with money of thyn own,
> Thou shouldest knele before Christ in compas of gold
> In the wyde window westward wel nigh in the middel.

Windows of this kind were never executed in England for the reason above mentioned, but they are very generally found in the continental churches. The most remarkable examples with which I am acquainted are in the churches of St. Vincent, St. Patrice, St. Godard, at Rouen; the church of Conches, near Evreux; the church of St. Etienne, Beauvais; at Gisors, Lisieux, Pont de Larche and Caudebec; and the churches of St. Etienne du Mont, St. Germain de l'Auxerois and St. Gervais, at Paris; and the cathedral at Bourges.

There was a style of glass-painting introduced in the latter period termed grisaille, from grey tints alone being employed. Although the effect is dull and monotonous, some admirable specimens of fine drawing are to be found in windows of this class, among which a "Last Judgment," in the south aisle of the choir at Gisors, merits particular notice, as it is full of the energy and grandeur of Michel Angelo's school of painting.

The discovery of the process by which a variety of colours might be produced on the same piece of glass led to the execution of subjects on square panes at the beginning of the seventeenth century. This method, which has been highly extolled by some modern persons, produces a very bad effect.* The leadwork used in attaching pieces of glass of distinct colours, so far from producing an unsightly appearance, is absolutely necessary to define the outline of subjects placed at so great a distance from the eye; and while the bands are accommodated to the form of each piece, they pass unnoticed in the general effect. But in square panes the subject is cut in every direction, as if a network were spread over it.

It is in this manner that the miserable attempt in the west window of New College, Oxford, was executed. To admit the insertion of this transparency the whole of the ancient tracery of this once beautiful window was cut and destroyed, while, at an enormous expense, a subject was introduced, two-thirds of which consists of dirty brown clouds, under which are the representations of some women having the appearance of third-rate actresses, but who are dignified with the designation of the Cardinal Virtues.

The actual decline of stained glass began in the latter part of the sixteenth century, but even subsequent to that date exceedingly clever paintings were executed on glass, especially in the Low Countries and part of Germany. These works were, however, comparatively small, nor was anything subsequently attempted on a large scale, but only in the way of restoration, many of which were executed in a very unsatisfactory manner. It is an erroneous idea to suppose that the mechanical part of glass-painting was ever entirely lost. It remained upwards of two centuries in a torpid state, consequent on the decline of pointed architecture, which is the only style calculated to exhibit this fascinating art in its full effect.

Glass-painting has been lately revived in Germany, and I am delighted to bear testimony to the gratifying fact that not only have several restorations of ancient windows been accomplished perfectly in the same character as the originals, but a set of windows has been executed for a church in the pointed style erected at Munich which are quite worthy of being placed by the side of many ancient productions, and I doubt not that if the same zeal for decorating sacred edifices which formerly existed throughout Christendom was again revived, this, as well as every other portion of ancient art, could be restored to its original splendour.

I shall now proceed to give some account of the use of stained glass in domestic edifices, for this beautiful decoration was not entirely confined to ecclesiastical buildings during the thirteenth, fourteenth, fifteenth and sixteenth centuries, but it was generally used in the larger apartments of royal and noble residences. The mansions of merchants were also ornamented after the same manner, and the windows of many private houses in the ancient cities contained small medallions of sacred history.

The windows of those truly noble banqueting-halls of Westminster, Eltham, Hampton Court, Kenilworth, Warwick, Windsor, Christ Church, Crosby and many others, blazed with the heraldic charges of their royal and noble founders. Nor were those belonging to the episcopal residences of Croydon, Durham, Lincoln, Wells and Lambeth inferior to the former in brilliant variety; and the same description may justly be applied to the great halls of the larger abbeys and colleges.

I must here remark that the great dining-halls in the abbeys were distinct apartments from the refectories, which latter were appropriated solely for the use of the monks, who dined in silence according to the monastic rule; while the halls were devoted to the hospitable reception of the numerous guests gratuitously entertained at the larger abbeys, not unfrequently amounting to many hundreds in number.

Heraldic badges, charges and mottoes, so much in vogue at this period, furnished an ample source of decoration for the windows of these buildings. Occasionally, however, figures of patron saints, sacred, historical and even romantic subjects were introduced.

Le Viel, in his history of the art of staining glass, describes the chambers of the royal palaces of Charles VI. at the Louvre and St. Pol as being furnished with richly stained windows, equally brilliant in colour as those of the Sainte Chapelle, previously mentioned; among which were images of saints, each seated on a throne surmounted by an elaborate canopy. These were all designed by Jean de St. Romaine, a famous sculptor of the time. The poet Chaucer describes a chamber in his Dream, of which the windows represented the whole history of Troy in painted glass.

Beryl was a sort of crystal, with which some of the most sumptuous apartments were glazed. Chaucer, in his "Romance of the Rose," speaks of a castle where

> Every window and each fenestral
> Wrought was with beryl and of clear crystal.

During the dynasty of the Tudors shields of arms, surrounded by circular borders of heraldic flowers, were frequently set in lights, filled up with the repetition of the motto, running bendy, with rows of quarrells between the scrolls, on which initial letters or small badges were generally painted. In "Piers Plowman" the following lines refer pointedly to windows of this descriptions:—"Wyde wyndowes ywrought ywritten ful thicke shynen with shapen shelds al shewen aboute with merkes of Merchauntes ymedeled betwene mo than twentie and two twyse ynombered. There is non heraud that hath half swich a rolle."

The "merkes" of merchants here spoken of were a sort of badges adopted by tradesmen and others who had no heraldic bearings. These "merkes" or marks are frequently met with in chapels erected by guilds or confraternities of trades, who were formerly associated for the performance of pious duties. The custom of bearing these marks was prevalent throughout Europe, and in the cemetery of Nuremberg a great variety of them are to be found on the tombs of the citizens, most of whom were persons engaged in some mechanical occupation.

I am not acquainted with any example of windows filled up by inscriptions and quarries with shields interspersed, existing on the Continent. The smaller windows of domestic buildings, both in France, Flanders and Germany, mostly consisted of white quarries edged with a narrow border of running foliage and one medallion placed in the centre of each light, in which was a representation of a single figure or a subject painted on white glass, relieved by brown and yellow only, and generally surrounded by an inscription. A very curious specimen of this style of glass existed formerly in an old house in Islington, and the celebrated John Carter has given a faithful representation of it in his valuable work on ancient sculpture and painting.

Some of these small subjects were painted in the most beautiful and finished manner, nor did those great masters Albert Dürer and Lucas van Leyden disdain the execution of them, for some fine specimens of those admirable artists are to be seen, painted by their own hands, on glass medallions of this description. During the latter part of the sixteenth and seventeenth centuries stained glass was occasionally introduced in the windows of apartments, but of so inferior an execution and debased design that the productions of these periods do not merit any particular remarks.

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* The want of brilliancy in the colours of this style, so very different from that of the pot-metals, is not here taken into account.

Nothing contributed in a greater degree to the solemn grandeur of the ancient churches than the varied and modulated light admitted through the stained glass, with which both the lights and tracery of the various windows were filled. Sublime, indeed, is the effect of a building thus furnished with brilliant and transparent imagery. As justly observes an ancient and holy writer, the very light of day, by passing through so glorious a medium, became better suited to the sacredness of the place.

The profusion of gilding and painting employed in the decoration of the old churches, and which modern ignorant artists condemn as tawdry ornament, was absolutely necessary to support a general richness throughout the edifice, of which the stained windows seemed to be the foundation. For when these glorious churches were in their full splendour they presented an harmonious effect of most surpassing richness. The vivid colours of the glass were recalled to the eye by the mosaic enamelled tile pavements, by the gold and colours which relieved the wood and stone carvings, by the painted panels of the screens and altars, by the tapestry hangings and antipendiums of massive embroidery, by the shrines of gold and silver enriched with jewels, and lastly by the gorgeous vestments of the clergy, covered with imagery, pearls and precious stones. The effect of stained glass in churches which have been stripped of all these ancient beauties is far too spotty; the contrast between plain walls and the most vivid colours is too violent, of which the present nave of York, since it has been washed, is a most striking example, for more than half the beauty of the old windows is lost by the mass of whitened stone with which they are surrounded. The beautiful effect of wax tapers, of which a vast number were constantly burning in different parts of the churches, was greatly increased by the subdued light of the whole building; and it must be universally admitted that such a softened and mysterious light as is produced in a building filled with stained windows is well calculated to awaken those emotions and thoughts in the hearts and minds of the worshippers which they should feel and entertain when within the temples and before the altars of God.

Did time permit I could enlarge greatly on the sublime appearance of the ancient buildings, produced entirely by their glass, but I must now draw your attention to another and more important effect than that of mere light and shade or fascinating colour which is caused by the employment of painted windows. I allude to the edification and instruction of the people. Believe me, the ancient churchmen, so far from seeking to enthral and fetter the minds of the people (as modern traducers of the days of faith would fain have you believe), eagerly adopted every existing means in their power to enlighten and instruct them in that knowledge which alone constitutes real wisdom. Nor could they have employed a more powerful and efficacious medium to effect this important object than thus rendering their churches one vast field of sacred history, presented in a form by which the most illiterate could not fail to profit. In a window of the church of St. Nizier of Troyes, before the great revolution, might have been seen three large windows of beautiful glass with this inscription:—"Monsigneur Odant Moslé, curé de Céans et chanoine de St. Pierre, a fait faire ces trois verrieres, avec la peinture et escritures qui y sont, pour servir de catéchisme et instruction aux peuples."

In fact there are but two mediums by which we can convey ideas of past events—description verbal or written, and images carved or pictorial. Now, considering the capacities and intellects of far the greater majority of mankind, it must be allowed that the latter method is infinitely better calculated to answer the purpose than the former. Several pages of text are required to describe an object which would be better understood by one glance at the original or a faithful representation. Indeed, to understand descriptive writing at all, we must be in possession of certain data whereby to form our ideas, for it is equally impossible to embody correctly in the mind objects which have never been beheld either in representation or reality, as for a person born blind to conceive the appearance of colours. Images, therefore, and pictures which speak at once to the senses and to the soul are infinitely better calculated to instruct than words either written or uttered. The impression made by them on the mind is far more forcible and enduring.

STOKE D'ABERNON.

A LARGE party of members and friends of the Surrey Archæological Society recently visited Stoke d'Abernon—or Daubernoun, as shown on ancient records. An interesting description of the church was given by Mr. Philip M. Johnston, of London. According to the *Surrey Advertiser*, Mr. Johnston said that archæologists were accustomed to look for the most ancient settlements in the neighbourhood of watercourses, and the Mole, upon whose banks the church was built, abounded in such ancient villages throughout its course till it reached the Thames. Higher up was Fetcham, with the remains of a Roman villa and a church containing portions of pre-Conquest date. The Domesday account told that a certain Norman knight, a companion of the Conquerer, Roger d'Abernon, held Molesham—now East Molesey—lower down the river, of Richard de Tonbridge, and that the same Richard held "Stocke," which appeared to have been in those days a fairly considerable village. A church and a mill were mentioned; the latter was in existence till a comparatively recent date. The church of Domesday was the pre-Conquest church—the church of plain Saxon Stoke—before the Norman D'Abernon tacked on his patronymic. There, then, after the changes and chances of, it might well be, a thousand years, they were assembled within walls which in part were standing at least a century before the Norman Conquest. The vaulted chancel, for which, among other things, the church is noted, was spoken of as a cherished work. For its size and character they rarely found, Mr. Johnston said, a more beautiful piece of vaulting. Dealing in detail with the leading features of the building, he drew attention to the extraordinary twist of the chancel. The walls, too, were exceptionally lofty for a small church, and were extraordinarily thin. The chancel walls were about 1 foot 9 inches thick, which was something quite out of the ordinary for walls of that height, and in the brickwork and structure they had a record of Saxon walls. Before the restoration there existed a chancel arch of a very different character to that they now saw, and he showed a water-colour drawing of the original, lent by the Rev. Wilfred Vaillant, of Weybridge. Alluding to the work of restoration, he said he felt very strongly that they, as archæologists, were bound to be just and fear not. It was no use saying absolutely smooth things. They owed a duty as a Society in proclaiming what they believed to be true and false in dealing with ancient buildings, and a great deal was done at the restoration which was very bad indeed from an archæological point of view. Commenting on a story, which had no foundation in fact, that a Saxon chancel arch was removed to make way for the present one, Mr. Johnston said that no doubt the previous arch, the date of which might be 1200, superseded an earlier arch—an arch of a Saxon church. The building contained many features of intense interest to archæologists, but, while they could not quarrel with those responsible for wanting to enlarge the church, it was done in such a way as to obscure some interesting features, and he alluded to windows, among other things. The original plan before the restoration consisted of nave and chancel, north aisle and Norbury chantry—the last-named was added about 1500. The Saxon plan was simply nave and chancel. The present tower was quite modern. It replaced what was a very characteristic feature, and was so still in Surrey churches, a wooden turret rising from the floor of the nave. The Saxon builders were better builders than the Normans who succeeded them. The Normans went in for massive and more bulky structures; the Saxons economised, but built so well that a great many of their buildings still remained, and, what was added testimony to their excellent building, they remained in many cases without buttresses. Mr. Johnston then alluded to two features on the south wall, which he said were unquestionably pre-Conquest. One was a sun dial and the other a curious door high up in the wall, recently brought to light by the removal of ivy, suggestive of an upper storey porch which must have been very common in churches of the Saxon period, which he roughly defined as about 900. Continuing, he gave a concise account of the Norbury chantry, built in the days of

Henry VII. by Sir John Norbury; the famous chest, familiarly called a Crusading chest, and the numerous brasses which are a feature, and some of which are the earliest known examples in the country. The brass of Sir John d'Abernon, he continued, was the oldest in England, and almost the oldest in the world. Its date was 1277, and it was in an excellent state of preservation. Reading from a few notes handed him by Mr. Malden, the speaker said that Sir John had seizin of his lands on coming of age in 1253. He was a tenant of the De Clares, and therefore on the baronial side in the Barons' war of Henry III.'s time. In all probability he fought in the baronial army at Lewes in 1264. After Lewes the Royal castles were taken care of by the barons. John de Warenne had been constable of Guildford Castle—he was a strong Royalist. In 1264 Sir John d'Abernon, Gilbert de Clare's man, was made guardian of Guildford Castle. When in 1265 de Clare changed sides, Sir John and his charge passed also to the king's side. Mr. Johnston made fitting allusion to the numerous monuments, and in regard to one, a coffin slab of Sussex marble, outside the church, erected to "Sir Richard the Little, parson of this church," he said he wished the Society, as a body, could emphasise that it should find a place again within the walls of the church where undoubtedly it was originally. He would also like to see the pulpit sounding-board and an hour-glass stand replaced. In conclusion, he made reference to the Rev. Philip Vaillant, who was rector of the parish from 1801 to 1846. His French ancestor, he said, came over—nailed up in a barrel—after the revocation of the Edict of Nantes during the persecution of the Huguenots, and settled at Battersea, and ever since the family had been connected with Surrey.

The party then inspected the chief features of interest, and proceeded to the manor-house, which, by the kindness of Mrs. Phillips, was open to inspection.

THE "SACRO SPECO," SUBIACO.

By one of the strange paradoxes in which history delights, says a correspondent of the *Scotsman*, the mountain gorge in the Sabines, which by Saint Benedict's life of poverty and renunciation has been converted into one of the holiest sanctuaries of the Catholic Church, had been selected some centuries before by another Roman as the scene of his most lawless luxuries and wildest extravagances. But of the villa that Nero built above the three lakes (sublaqueum—Subiaco) which he formed by damming up the Anio, scarcely a trace remains, whilst from the monasteries built by Saint Benedict above the ruins of that villa a civilising, humanising power has gone out into all lands.

Not even Assisi impresses the imagination as profoundly as does the little church in the lonely mountain gorge, built over the saint's cave dwelling. About a mile and a half out of Subiaco a mountain path leads through steep and rugged places up to the Sacro Speco. Clinging to the side of the rocky hill the little church rises in three tiers, while the buildings of the monastery have gathered close round it, wherever they can find standing room among the great boulders and upon the steep sides of the precipice. In the clear, transparent light of an Italian morning the building seems to be suspended in mid-air; it is like some sanctuary of the Knights of the Grail, "mystic, wonderful," with the glamour of a unique consecration. The absolute loneliness of the spot, remote from any human dwelling, and the wild picturesqueness of the scenery, intensify the impressiveness of the building. Difficult as it had been a short time before to realise the conditions of the religious life in the fifth century, it is strange how vivid and real Saint Benedict's own personality becomes on the actual spot where for so many years he dedicated himself to a life of prayer and meditation. Everything contributes to bring about this result. For fourteen centuries pilgrims from every part of Europe have climbed this rocky path, moved by reverent wonder for the high-souled saint, the loving and lovable man whose life is here commemorated on frescoed walls, in chapels built above the cave where he had lived for so many years. Painters, poets, popes have worshipped on this spot, and have left on this mountain slope their testimony to the undying nature of holiness and the enduring power of spirituality. The frescoes with which every part of the walls are covered are instinct with the faith which has inspired them. Nothing can exceed the tenderness, the devotional feeling, the naïf piety of these pictures, which were painted not from decorative instinct, or by order of some great and powerful patron, but as an act of religious faith and in the spirit of simple, sincere worship.

Nothing in the outer architecture of the structure prepares one for the wonderful impressiveness and beauty of the upper chapel, an exquisite specimen of early Italian Gothic supported by pillars of antique marble taken from the ruins of Nero's villa, with the natural rock forming the wall behind the altar. Opposite the altar a door opens on to a balcony that overhangs the gorge, letting in a flood of light on the frescoes. A series of chapels open out of the centre aisle in irregular succession, following the formation of the natural rock, which in every part, sides, roof and ceiling, has been covered with frescoes depicting the life and miracles of the saint and his disciples. The paintings in the upper chapel are by pupils of Giotto, and are executed with a fine sincerity. Every incident in the life of Saint Benedict is commemorated in the same spirit of reverent belief in which St. Gregory records them in his life of the saint, written shortly after his death. As we look at this pictured story of the saint's life on aisle and chapel and ceiling, the heart is drawn and the spirit moved to understanding the passion of enthusiasm that the man aroused in all who came under the influence of the imposing nobility of his character and the tenderness of his nature. The love which he aroused in his nurse; the veneration with which he filled the minds of the barbarian invaders of Italy, which culminated in the visit paid to him by the Gothic king Totila on Monte Cassino; the power which he exercised over his disciples; the wise moderation of his rule (which, setting its face against a too rigorous asceticism, enjoined that "all should be done with moderation because of the weak"); the life-long devotion which bound his only sister Scolastica to him, and, above all, the personal holiness of the man are brought before us in these pictures with a directness and reality which no words could effect. The men who painted them must have been deeply penetrated by the saintliness of the life whose story they portrayed and by the peculiar consecration of the place, for the inspiration under which they have worked thrills us after five centuries, and is as different as possible from the mixture of curiosity, interest and criticism with which we contemplate the frescoes of Saint Benedict's life by Niccolo de Foligno, in the cloisters of the Badia at Florence, or the same subject treated by Spinello Aretino in the sacristy at San Muniato. A flight of stairs leads from the upper into the lower chapel. As the eye gets accustomed to the dimmer light the rocky walls of the hillside are everywhere apparent, though here, too, they are covered by painting. Strange almond-eyed Byzantine saints and angels fill the lunettes of the ceiling, their white wings and golden halos luminous against a dark blue background. A faint light shines down a side gallery, and comes from the lamps which burn night and day in the actual grotto where the boy-saint lived, and which is left in its natural state, unadorned by painting and untouched by the builder's hammer. At the entrance of this cave there is a beautiful statue of the young anchorite by Raggi, a pupil of Bernini's. In this work the sculptor has laid aside the mannerisms and artificiality of his school, and the statue is full of beauty and poetry. In the attitude and the expession of the face we feel the glow of mystic fervour, the rapt consciousness of a God-given vocation, and the utter detachment from the things of the world that led the boy 1,400 years ago to the actual cave in which we stand, and supported him through years of loneliness in this isolated place. In the dreamy look in the eyes and in the ineffable sweetness of the lines of the mouth there is something that recalls the bust of the young Marcus Aurelius in the Capitol.

From the lower chapel a flight of stairs (the *scala santa*) leads down to a second grotto, the cave in which Saint Benedict taught the shepherds. In a chapel leading out of the *scala santa* is a recumbent figure of a warrior saint, Lorenzo Loeicato, a soldier in the sixteenth century, who, having spent his early manhood on many battlefields, grew weary of strife and turmoil, and withdrawing to the Sacro Speco spent the remainder of his life in prayer and meditation. The mail-coat which he wore next to his skin, and the helmet which he heated red-hot and wore on his head each Good Friday, are treasured as relics in the sacristy. The presence of this portrait amid pictures from the New Testament gives a poignant sense of reality to the lives of the monks and penitents who in successive generations have sought in this retreat forgiveness for sin and abstraction from the cares of the world. A still more interesting portrait is one in the chapel of St. Gregory leading out of the lower chapel. It is a likeness of St. Francis of Assisi, and is said to have been painted by an artist who was working in the church at the time when St. Francis visited Subiaco with Cardinal Ugolino, afterwards Gregory IX. The expression of the face is grave, the forehead low, the eyes large and searching. No attempt has been made to idealise what is clearly a portrait and one taken before canonisation, as there is no halo, and the inscription is Frater (not Sanctus) Franciscus.

On the edge of the precipice what ground there is has been redeemed into gardens, and all down the steep slope of the hill to the Anio, wherever it has been possible, the barren soil has been converted into vineyards and olive groves. It is to the lasting honour of the Benedictine order that from the earliest days they enforced labour as a religious duty. Seven hours were to be consecrated to work, seven to prayer and two to reading—a rule which bore rich fruits in the conversion of a desolate region into a fruitful land. Later, when the word "work" received other and wider application, a still richer harvest was gleaned, for the first printing-press in Italy was set up in the monastery of Santa Scolastica (between Subiaco and the Sacro Speco), and the monks became the most industrious of printers.

As we left the sanctuary and looked back through the open doorway on the dimmed glories of the upper chapel, we understood something of the fervour that caused Petrarch to exclaim, "Those who have seen the Sacro Speco seem to have stood on the threshold of Paradise."

ROSSLYN CHAPEL.

A SERVICE was held in Rosslyn Chapel on the 21st inst. Archdeacon Sinclair, of London, addressed the congregation. He said:—The powerful person who built this exquisite shrine, Sir William Sinclair, Chancellor of Scotland, was evidently an example of such Christian virtues as were possible in a disturbed and martial age. He succeeded his father as Earl of Orkney in 1407, and inherited an illustrious roll of titles, immense territories and enormous political influence. He was the great-grandson of King Robert II., his first wife was granddaughter of King Robert III., and his second wife, a lady of the house of Sutherland, was descended from Princess Margaret, third daughter of the great King Robert. His daughter, Lady Katherine, was married to Alexander, Duke of Albany, brother to King James III. His father had been guardian to King James I., and he himself was entrusted with the care of Princess Margaret (sister of James I.) when she sailed to France to marry the Dauphin, afterwards King Louis XI. Having quoted a passage as to his appearance, Archdeacon Sinclair said the historian implied that Sir William was his own architect, causing the designs to be drawn on Norwegian boards, then carved to size by carpenters and finally in stone by masons. He set a good example of care and sympathy for his workmen to all great builders; for "because he thought the masons had not a convenient place to lodge in near the place where he builded this exquisite collegiate church (for the town then stood half a mile from the place where it now stands), therefore he made them to build the town of Roslin, and gave every one of them a house and lands answerable thereto, so that this town at this time, by reason of the great concourse of the people that had recourse unto the Prince (for it is remembered of him that he entertained all his tenants that were any way impoverished and served all the poor that came to his gates, so that he spent yearly upon such as came to beg 120 quarters of meal), became very populous and had on it abundance of victuals, and was thought to be the chiefest town in all Lothian, except Edinborough and Haddington." It was altogether a charming and delightful glimpse of an accomplished, generous and God-fearing noble of these troublous Middle Ages. One picture more. When the chapel had only been begun about a year a fire occurred in the castle through the carelessness of one of the Princess's gentlewomen in placing a lighted candle under a bed to look for one of her mistress's little dogs. The Prince's chaplain, seeing the fire and remembering all his master's writings, passed to the head of the donjon where they were, and threw out four great trunks which contained them. The news of the fire coming to the Prince's ears through the lamentable cries of the ladies and gentlewomen, and the sight thereof coming to his view in the place where he stood, to wit, upon the Castle Hill, he was sorry for nothing but the loss of his charters and other writings. When the chaplain, who had saved himself by coming down the bell-rope tied to a beam, declared how his charters and papers were all saved, he became cheerful, and went to recomfort his Princess and the ladies, desiring them to put away all sorrows, and rewarded his chaplain very richly. "Yet all this stayed him not from building of the collegiate church, neither his liberality to the poor, but was more liberal to them than before, applying the safety of his charters and writings to God's particular providence. Truly a wise, great and pleasant man; they could look back at him with unmingled esteem and admiration." The family of the founder, continued Archdeacon Sinclair, seemed to have been useful to Church and State for many generations, and the founder of Roslin and his forbears were figures standing out from the dim, turbulent times of ancient Scottish history and worthy of the noble apostrophe of the Hebrew writer, "Let us now praise famous men, and our fathers that begat us." Although he (the Archdeacon) bore the same name as the founder, there was no reason why he should be accused of egotism in speaking of their virtues, for his branch of the family was but distant and remote from the parent stock. The founder was unable to complete his design. He intended to build a cruciform church with a central tower. The present famous chapel was only the choir. It was thirty-four years in building, and at the rate at which he was paying his workmen it was reckoned that it must have cost 400,000*l.* of our present money. Death intervened in 1484, and the chancel was finished by his son. Accepting the theory that the founder intended the elaborate carvings of the chapel to be a Bible in stone (for it must be remembered that he began before the invention of printing and a hundred years before the Reformation), Dr. Sinclair proceeded to say that the last heir male of the Roslins died in the time of Sir Walter Scott, who had left them a graphic picture of this representative, which the Archdeacon quoted. Even the last remaining dignity he gave up, for it was he who in 1736 resigned the office of hereditary Grand Master Mason of Scotland, an honour which had descended from father to son since the time of James II. So passed human greatness. The story of Roslin had provided a modern genealogical writer with one of the most striking instances of the "Vicissitudes of Families." The castle was ruined, the retinues were gone, the state had departed, the race was divided. But of all the works which occupied Earl William the chapel alone had survived. There it stood on its beautiful hill, still active in the service of God as when, five centuries ago, it had its dean and six prebendaries and full collegiate establishment. Still Christian prayers were offered and praise sung, and God's Word read and preached. Political power had come and gone; the Reformation had swept over Scotland; there had been changes in law and government, but this chapel, famous throughout the English-speaking world, had been protected by its own sacred character and preserved by the surpassing beauty which the founder designed for it in the service of God. The only surviving daughter of the last heir-male had a grandson who became Lord Chancellor of England, and was created Earl of Rosslyn. His nephew succeeded him, and the two estates, which had been sold to another branch, came back once more to the name of Rosslyn. The Lord Chancellor did much to preserve the chapel, though the estate did not belong to him, but it was the third and fourth earls who completely restored it, and revived in its splendid walls the regular worship of God.

USHER HALL, EDINBURGH.

THERE has been prepared in the Public Works Office and issued to the members of the Edinburgh Corporation a set of amended plans of the Usher Hall, to be submitted for consideration at the forthcoming meeting of the Town Council. The main features of the design, according to the *Scotsman*, consist of a central or main hall capable of comfortably seating 3,500 persons, the general area at the street floor level, with balconies on the sides and double gallery at one end, and platform orchestra and chorus benches and organ-loft opposite; the principal entrance in Castle Terrace, with outer and inner halls, side entrances and corridors to the right and left at the grand hall; green-room, retiring-rooms, &c., for artists, orchestra and chorus at the platform end of the hall; staircases giving access to the galleries above and basement below; a lower hall in the basement, with side rooms, cloak and retiring-rooms conveniently arranged for all parts of the house; kitchen, scullery, &c., in the upper storey, and heating, ventilating, storing and subsidiary arrangements and provisions in the basement.

The Grand Hall.

The proportions of the grand hall, of which the mean length is 175 feet, width 70 feet and height 56 feet, have, says a statement accompanying the plans, been carefully adjusted, and in view of the successful adoption of similar proportions in numerous existing examples, and of the materials it is proposed to use for the surfaces of the walls, ceilings, &c., very favourable results, both æsthetic and acoustic, may be confidently anticipated. Balconies, three rows deep, will run along the sides, terminating in a double gallery at the end opposite the platform. To the upper part of this gallery there will be access by two staircases, one on each side of the building, entering directly and independently from the exterior, and affording, separate from the other exits from the hall, a provision for the ingress and egress of 600 persons without interference with the other like provisions applicable to the other parts of the building. The platform, orchestra and choir benches at the west end of the hall afford accommodation for 90 of an orchestra and 300 of a chorus, and when orchestra and chorus are dispensed with, the accommodation of this part in ordinary seats will be 577. The back of the choir will be formed in a semicircular screen of panelling, in the middle of which the organ will be arranged. It is proposed to form the floor of the grand hall with a rise towards the further end from the orchestra to minimise the inconvenience arising from distance and interruption of view by those further forward. The lighting will be by large semicircular windows in lunettes along the cove above the main cornice, the ceiling being intersected by cross-beams and side panellings to assist the acoustic effect.

Entrances and Exits.

Besides three wide doors in Castle Terrace and two in each of the side entrance halls, seven of the staircases have each a separate door from the exterior of the building, these doors opening outward. The combined widths of all the outside doors amount to 80 feet, giving 1 foot for every forty-four persons, an allowance largely in excess of the approved minimum, which is 1 foot to every sixty persons; and this, with the wide distribution and arrangement of the doors as already referred to, it is considered, will afford an ample margin of safety in exits in the event of any untoward accident leading to alarm or panic. Within the principal entrance at Castle Terrace an inner entrance hall 70 feet long by 25 feet wide gives direct access to the grand hall and the two principal staircases, one at each end, leading to the galleries and foyer above and to the lower hall in the basement. Further access to the grand hall is by main corridors on each side, each having three doors leading into the hall with cloak-rooms on the opposite side and crush-rooms and exit doorways leading to the exterior of the building. Besides the principal staircases already mentioned, there are at each end of the side corridors service staircases connecting both with the gallery and basement floor, each with exit doors to the lane outside, and two further independent staircases for the use of artists, chorus and orchestra, one with external door—eight staircases in all.

Cloak and Retiring-rooms.

Ample and widely distributed cloak-room accommodation is provided. With the prevailing style of ladies' head-dress, the statement continues, it is considered of much importance to arrange conditions which will justify the stringent regulation that all hats and bonnets should be left in the cloak-rooms, and with a view to reasonable facilities for meeting this requirement, the accommodation has been arranged so as to be of ready access from the several parts, whether on entering or leaving the building. Besides cloak-rooms along the main corridors, there is further provision in connection with the front entrance hall at four different floors—basement, entresol, ground and first-floor levels; and the arrangement of side cloak bays is continued along the main corridors on the upper or balcony level. These provisions could be still further augmented, if desired, by the introduction of an entresol over the ground floor retiring-rooms adjoining the main entrance. In the portion of the building on each side and behind the orchestra retiring-rooms are provided for the artists, on such a scale as should materially contribute to the comfort of those using them. Besides separate accommodation for male and female artists and chorus, there is a large green-room.

Lower Hall.

The lower hall, 92 feet by 70 feet, is situated in the basement under the grand hall, and is approached by the downward continuation of the two principal staircases and independent entrance porches. The hall will comfortably seat fully 1,000 persons, with suitable platform, retiring-rooms and passages. It is provided with independent access from the exterior, so that it could be used concurrently with, but separately from, the grand hall. There are, however, means of communication with the grand hall, so that both could be used in connection, if desired, for special occasions.

A kitchen and scullery are provided in the upper storey of the side building at the north-west corner of the main block, with service lift to the grand and lower hall floor levels, so that in the event of entertainments or banquets to large numbers there should be no lack of convenient service in this way.

Estimate of Cost.

The estimated cost of the building as now adjusted, based on the actual tenders formerly recommended for acceptance, including suitable allowances for finishing, fittings and furnishings, but excluding organ, sculpture and site, has been reported at 78,270*l.* The superficial area of the ground covered by the building as on the plans is virtually identical with that of the block plan of the site—the only one suggested on the part of Mr. Usher himself—namely, that on the opposite side of the Castle Terrace extending over the King's Stables Road, the one measuring 2,897 and the other 2,896 square yards.

PRESERVATION OF IRISH RUINS.

SOME few days ago an influential deputation waited on the Cork County Council for the purpose of enlisting the aid of that body in the preservation and renovation of the ancient monuments of the county. It was pointed out, says the *Irish Times*, that many of these historic ruins are crumbling away, and that as the result of recent legislation the local body could, with the consent of the owners of the monuments, undertake their maintenance and repair. The case made out by the deputation so far will command general sympathy, but from inquiries which have been made it would seem that the deputation rather overstepped the mark in stating that the Board of Works, in whose control this power formerly rested, had done nothing to preserve these celebrated landmarks from decay. The Board of Works enjoys the reputation of being one of the most severely criticised public bodies in Ireland, but if there is one matter more than another in which the department deserves well of the community at large, it is in this very question of the preservation of our historic monuments. As the law stands at present, the Board can act only on the representation of the owner of the land on which any ancient ruin is situated. When their aid is thus invoked, they must first consider whether the structure brought under their notice is one of national importance, what the cost of the repairs will come to, and whether skilled supervision is required. If all these conditions are satisfied, the Board takes over control. But if, on the other hand, the ruin is practically past repair, then it is considered the better policy to leave it in charge of the County Council or other local body, who are in a position to exercise constant supervision, and whose authority is less likely to be abused than that of a public department located in Dublin. There are a great many minor ruins all over the country that, if vested in the county councils, would not require much expenditure for supervision, while local control would exercise a wholesome deterring effect on vandals, whose ravages in the past have often worked irreparable havoc. Many of our county councils have generously fulfilled their duties in these matters, but there is still plenty of room for increased effort in this direction.

In the county Cork the Board of Works have charge of seven ancient monuments, the principal of which are St. Kieran's Church, on Clear Island; the abbey on Sherkin Island; the abbey of Timoleague; the old abbey of Buttevant, and the abbey at Kilcree. Two minor structures, consisting of the ruins of ancient churches, are also vested in the Board. Of the principal structures mentioned the abbey at Timoleague is in good condition. The Board have appointed a caretaker to look after it, and, as in the case of the other ruins, periodical inspections are made by officials of the department. Kilcree Abbey was vested in the Board at the time Sir Thomas Deane acted as inspector of National

Monuments. Shortly afterwards he visited the ruin, and found it in such a filthy condition that he made up his mind not to proceed with the necessary repairs until the structure was first cleaned out. As the result of representations to the local Poor Law Guardians and the Local Government Board, the desired improvement was made, and then the Board of Works set about the discharge of their duties to the building. Ivy was found growing all over the structure, and growing too, not out of the ground, but out of the walls. The Board of Works proposed at the outset to remove this ivy so as to ascertain the ravages it had caused, but here they were met with a difficulty. The inhabitants of the district strongly objected to the stripping of the verdure-clad walls and to the consequent loss of that picturesque appearance which they had presented for generations past.

The opposition was not unreasonable. Some antiquarian writers, as, for instance, the late Sir William Wilde, have expressed the opinion that ivy is a great ruin preserver, and the same belief prevails to some extent amongst the general public; but those who have devoted close and constant attention to the matter hold exactly the opposite view, and claim that ivy eventually destroys rather than protects the buildings on which it grows. The sentimental grievance entertained by the people living in Kilcree district was ultimately overcome, and within the last few months the Board of Works have been enabled to make arrangements for the removal of the ivy and the general renovation of the structure. With the exception of Kilcree Abbey, all the buildings in charge of the Board in county Cork are in as good order as possible. These ruins are seen at least once a year, and the Board have heard of no complaints as to their condition.

The worst ruin in the county Cork is at Bridgetown, where there is an old abbey in a very dilapidated condition. It is being slowly but surely destroyed by the growth of ivy, but it is not vested in the Board, and they have no power to interfere unless the owner or some responsible party vests its guardianship in them. Then, and not till then, can they legally spend any money on it. The Earl of Listowel would willingly, we are informed, have the ivy removed and the place looked after, but unfortunately he, too, is powerless in the matter. The abbey is situated near the village of Ballyhooley, where the Awbeg river falls into the Blackwater, a district whose landscape features have been immortalised by the poet Spenser. There is another ruin in the northern portion of the county over which, for the reasons already mentioned, the Board of Works have no control, but in both cases the County Council will, no doubt, be able to bring about a satisfactory agreement, and perhaps take over charge themselves. Many other county councils have taken over the control of such structures. In county Galway, for instance, the Council, of which Mr. Joseph Glynn is chairman, has done a great deal of good work in this way, notably in the matter of the ancient ruin called Temple Jarlath, at Tuam. They have also spent money in the preservation of the Cross of Tuam, and several other interesting and historic landmarks in the county. Quite recently, too, in Louth, the County Council incurred considerable expenditure on the repair of Temple Mochta, an ancient stone-roofed house, which is one of the most interesting structures of the kind in Ireland. This improvement was largely due to the efforts of Mr. Dolan, of Ardee. Two or three other county councils have also rendered admirable service of a similar character, and have shown that they are thoroughly alive to the importance of exercising the powers conferred upon them by Parliament. There is no doubt that the Cork County Council will show equal alertness in the preservation of their historic ruins when all the requirements of the statute have been complied with, and that the efforts of the deputation which has directed their attention to the matter will be attended with highly gratifying results. Meanwhile it would seem that until the owners take action in the matter the Board of Works are absolutely powerless. The County Council are, no doubt, confronted with a similar difficulty, but an offer of local control may be more acceptable and be more easily arranged than a proposal to entrust the structures in question to the care of a public body in Dublin.

Mr. J. E. Smales has been selected out of the 248 candidates for the post of surveyor and inspector of nuisances to the Leatherhead Town Council at a salary of 250*l.* per annum. Mr. Smales served his articles with Mr. W. H. Syme, architect, Watford, and gained a scholarship for five years in the Architectural School of the Royal Academy.

TESSERÆ.

Somerset House.

This noble building possesses that essential virtue, without which complexion and form will never constitute genuine beauty. A piece of architecture (as well as that "noble piece of work—man") requires, ere it can be really admirable, a certain proportion of moral worth, and in proportion to its share of this quality we must subdue our judgment as to its faults. It would be almost as culpable to cavil with the faults of Sir Joshua Reynolds's pictures as to allow his character as a man to suffer under the necessity of his speaking-trumpet, and in like manner the pervading worth of the celebrated pile in question is such as to preclude any liberal mind from dwelling with censorious pertinacity upon those faults which it is, nevertheless, a duty in the critic to mention. To allude then at once to the external defects of Somerset House. In the Strand front and the courtyard front of the old Navy Office the order is meagre and apparently deficient in altitude when compared with the substantial and lofty basement on which it stands. That this objection is well founded will be allowed, when we compare the portions alluded to with the corresponding features of the river front and the façades east and west of the courtyard. It would have been better had the Corinthian columns (as in the parts last quoted) rested throughout the building upon the basement blocking course, with the line of balusters between, instead of under the columns. An objection also may be taken to the rusticated face of the superstructure as it appears on the river front and on parts of the court elevations. The expense of cutting the channels would have defrayed the charge of furnishing every window with a plain architrave. The centre-piece of the river front, though good in itself and pleasing in its application, is not of commensurate importance, either as it regards the extent of the entire elevation or the superior columnar richness of the wing compartments. As to the censures which have been passed upon the arches under the wing porticoes, it would be well if it were in the power of all architects to err so beautifully; a principle of strength is here unquestionably violated. But what shall we say then to the Palladian bridge? Or ask a painter his opinion of the feature in question. Possibly he would reply, "It may be against your constructive creed, but it will admirably suit my picture." The beauties of Somerset House are to be summed up in fewer words than its blemishes, because the former are pervading and obvious, the latter partial and so entwined amid the general excellence that it is necessary to be carefully explicit, lest the good should suffer with the defective. In magnitude of scale, worth of material, excellence of workmanship, skill of arrangement, the governing simplicity and harmony of its elevations, the sober and appropriate display of decorative richness, the unequalled majesty of its terrace, and lastly, in its general character as the work of a Vitruvio-Palladian artist, Somerset House is a sufficient credential for the union of Sir William Chambers's name with that of his country.

Paolo Uccello.

This painter was contemporary with the sculptors Ghiberti and Donatello, and in the opinion of Vasari would have been one of the most remarkable painters from Giotto until Vasari's own time had he bestowed as much labour on men and animals as he did on perspective. Uccello was the first Italian artist who reduced the principles of perspective to rule: he was acquainted with geometry as a science, which he learnt of his friend the mathematician Giovanni Manetti, with whom he used to read Euclid. He painted in fresco and in distemper, but most of his works are now destroyed. His pictures were generally of such subjects as admitted of the introduction of animals, and he contrived in all his works to display his power of foreshortening. His best works were those painted in Santa Maria Novella, in green earth, where he illustrated the histories of Adam and Eve, and of Noah, the Creation and the Deluge. In these works he painted numerous animals, amongst them many birds. He acquired his name of Uccello on account of his predilection for painting birds. Vasari does not mention his family name; it was not Mazzocchi, which is a name given to him by Orlandi through misunderstanding a passage in Vasari. He was skilful also in landscape-painting, and the backgrounds of some of his paintings were the best specimens of this department of art that had been produced up to his time. Uccello painted also in green earth in the cathedral a colossal equestrian portrait of an Englishman who was a captain of the Florentine republic, and who is called Giovanni Aguto by Italian writers; he died in 1393. This painting still exists, and is marked at the base Pauli Uccelli Opus. He had a high opinion of his proficiency in his own peculiar line, and he painted on the same panel his own portrait, with the portraits of four other men distinguished in different arts or sciences. He painted Giotto for painting, Brunelleschi for architecture, Donatello for sculpture, himself for perspective and animal painting, and Giovanni Manetti for mathematics. He died, according to Vasari, in 1432, aged eighty-three, very poor, having latterly devoted his whole time to perspective, which was a very unprofitable study to himself, although succeeding artists derived great advantages from his labours. Bottari supposes 1472 to have been the date of Uccello's death.

Greek Doorways.

The doorways of Grecian temples were made lofty and spacious, not only for the sake of rendering them important architectural features, but also because the light was admitted into the cella, or interior fane, which was usually of very small dimensions compared with the general structure, through the entrance. Consequently the interior was imperfectly lighted, unless the temple itself was of the kind denominated hypæthral, that is, exposed to the sky (as was the Parthenon), the centre portion being left unroofed, with merely a covered colonnade or portico around it, above whose columns were others forming a smaller order; for, as such inner peristyle consisted of columns less in diameter and height than those of the exterior one, the additional tier was necessary to fill up the greater altitude occasioned by the slope of the external roof above them. Like the windows, Grecian doorways were sometimes narrower at top than at bottom, and were embellished conformably to the character of the building. One of the most elegant specimens is that of the division of the Erechtheion, called the Temple of Minerva Polias, copied in the central doorway of St. Pancras. Besides the architrave around the aperture, there is an outer border decorated with circular ornaments termed pateræ, and the whole is crowned by a beautiful corona and highly enriched cymatium, forming together a cornice supported on consoles (scroll-like brackets).

GENERAL.

Count Sacconi, the architect of the national memorial to King Victor Emmanuel on the Capitoline Hill at Rome, died suddenly at Pistoia on Sunday.

Mr. William Williamson, architect, Kirkcaldy, has been placed first in a competition for a Carnegie library to be erected at Burntisland, at a cost of 3,500*l.* Mr. Washington Browne was the assessor.

The Engineering School at University College, London, will begin the new session on Tuesday, October 3. The three years' course for students qualifying for the diploma or for the degree in engineering has now been fully organised. In the department of civil engineering and surveying the services of eminent engineers in practice have been obtained for special courses. For instance, Mr. H. Deans, M.Inst.C.E., is to give a course in railway engineering, and Mr. A. T. Walmisley, M.Inst.C.E., in waterworks, roads, street paving and tramways.

Francesco Vitalini, the Italian landscape-painter, has been killed by a fall into a ravine in the Dolomites, where he was engaged in painting the scenery. He was in his forty-eighth year.

A Sub-Committee of the Chichester Town Council has been appointed to consider a proposal to issue an illustrated guide to the city on the lines of those obtainable in Chester, Norwich, &c.

The Late Mr. Alfred Waterhouse, R.A., of Yattendon Court, Berkshire, by his will gave to his widow the use and enjoyment for her life of his Yattendon Court estate and all his furniture, plate, &c. He also bequeathed to her an annuity of 3,000*l.* and the income of a special fund to be set aside to go with the Yattendon Court estate. Subject to her interest the property is devised to testator's eldest son, Paul Waterhouse, for life, and to his sons in tail. After giving certain pecuniary legacies to relations and to pupils and assistants, the latter of considerable amount, the residue of the estate is divided among the testator's four children, in the proportions of one share to the eldest son and two shares each to his brother and sisters. The estate has been sworn at 163,575*l.*

A Course of Lectures on sanitary building construction has been arranged by the Carpenters' Company with a view to an examination to be held in Carpenters' Hall in November. On October 12 Professor D. H. Capper, of King's College, will lecture on sites—wet and dry foundations, &c. On the 19th Mr. H. D. Searles-Wood on the properties and qualities of building materials and how to use them. On October 26 and November 2 Dr. A. Wynter-Blyth on sanitary arrangements of buildings, &c., and on November 19 Mr. James Bartlett, of King's College, on setting-out works for Acts of Parliament and by-laws. The lectures will be illustrated by models, diagrams, photographs and specimens of materials.

The Renovation Works by H.M. Board of Works in the Regality Tower of Arbroath Abbey and the other buildings are making rapid progress. Where signs of decay were visible the old lime has been removed from between the courses of masonry and replaced by cement, while cement has also been freely applied to parts where water could percolate into the body of the masonry and cause decay. The work is being carried out under the superintendence of Mr. Scott, from H.M. Office of Works.

The Edinburgh Committee of the Exhibition of Architectural Refinements gave a farewell dinner on the 21st inst. to Mr. and Mrs. William Henry Goodyear on the occasion of their leaving Edinburgh for New York. Amongst the guests present were Mr. and Mrs. Goodyear, Professor Cooper, Mr. Hippolyte J. Blanc, Mr. Lorimer, Mr. Sydney Mitchell, Mr. Thos. Ross, Mr. F. W. Deas, and Mr. and Mrs. H. O. Tarbolton.

The Work of the Architectural Department of University College, London, under Professor F. M. Simpson, is being specially developed. The courses for the three years' training are now completed. At the opening of the session on October 3 two new studios will be provided for junior and senior students, and also special smaller studios for more advanced students doing special work. With the help of the Carpenters' Company arrangements have been made for a series of demonstrations on the working of materials and their construction, to be held at the Company's Trades Technical School, Great Titchfield Street. This will bring the lectures into close association with practice and will save the necessity of duplicating a museum of materials and structures.

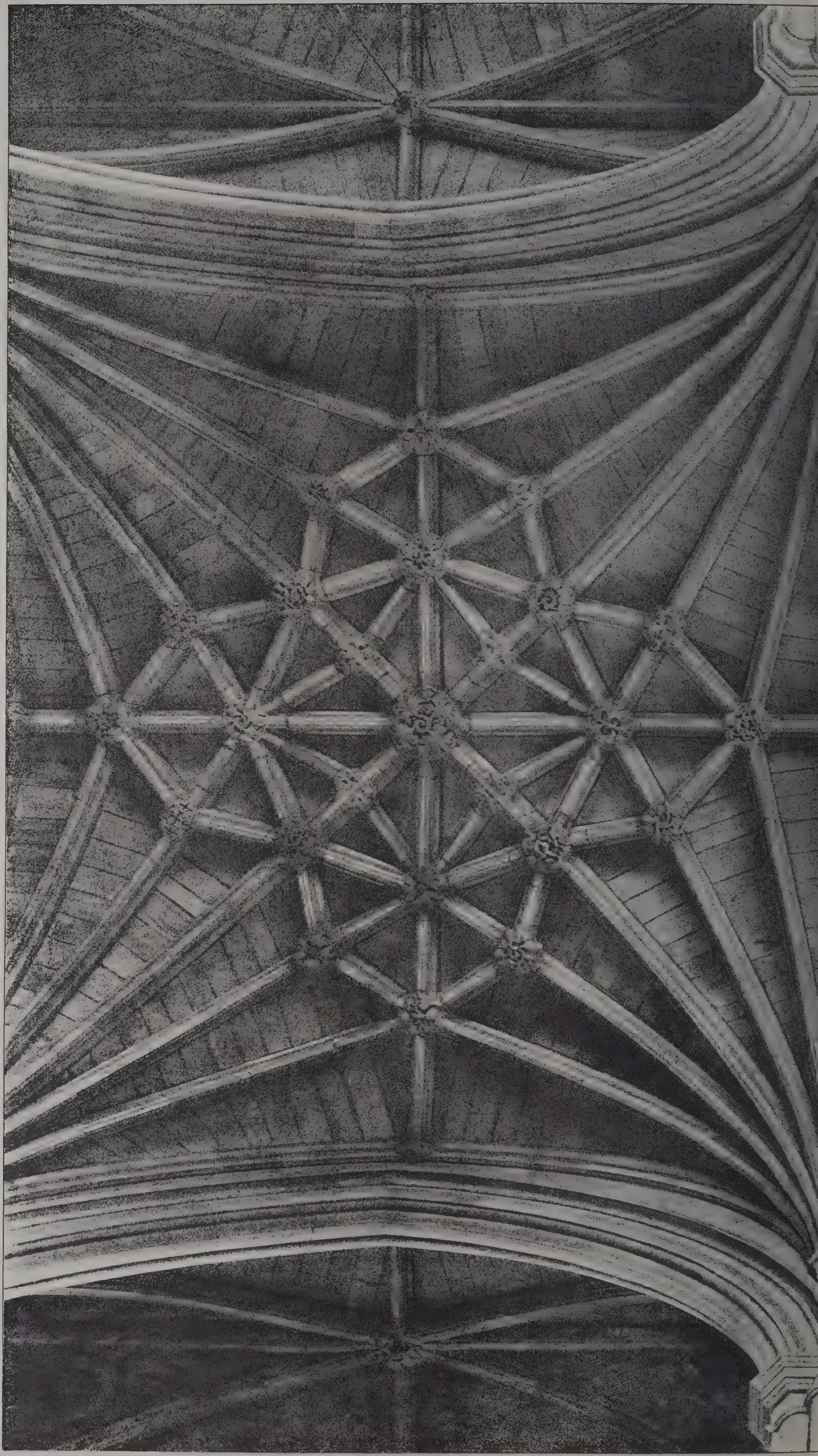
Mr. John M. Ewen, vice-president of the Fuller Construction Co., has been appointed consulting engineer of the new county building to be erected in Chicago. This appointment is made at the suggestion of the architects, who state that there will be many important technical questions arise on which an experienced builder can give valuable advice. The office carries a salary of 15,000 dols. a year.

The Candidates for the post of surveyor of the county of Derby, rendered vacant by the resignation of Mr. J. Somes Story number 235. The following are to be interviewed to-day by the committee:—Messrs. J. Blackwall, Bakewell; C. L. Boddie, Londonderry; A. E. Brooks, Birmingham; S. E. Burgess, South Shields; A. V. Hart, Dumfries; J. W. Harton, Hatfield; J. G. Powell, Surrey; Vincent Smith, Chesterfield; and H. M. Whitehead, Stafford.

The Late Mr. Charles A. Cummings, an American architect lately deceased, has bequeathed to the Boston Museum of Fine Arts the sum of 50,000 dols., the income from which shall be used "in the purchase of representations—whether models, casts, paintings, drawings or photographs—of the best architecture of all ages," the said purchases to be effected after consultation with the executive committee of the Boston Society of Architects. A second bequest of 10,000 dols. is made to the Trustees of the Boston Athenæum, who are to use the income of the fund in the purchase of architectural books and photographs.

A General Meeting of the Institution of Heating and Ventilating Engineers will be held at the Institution of Mechanical Engineers on October 17.

The Lectures on Architectural History given at the South-Western Polytechnic, Chelsea, by Mr. Banister Fletcher, F.R.I.B.A., and supplied by the Board, to promote the extension of university teaching of the University of London, held during the past session, have been very successful. The total number of students who entered for the course was forty-seven, and at the examination held at the conclusion of the course eight students satisfied the examiner (Professor W. R. Lethaby, of the Royal College of Art).



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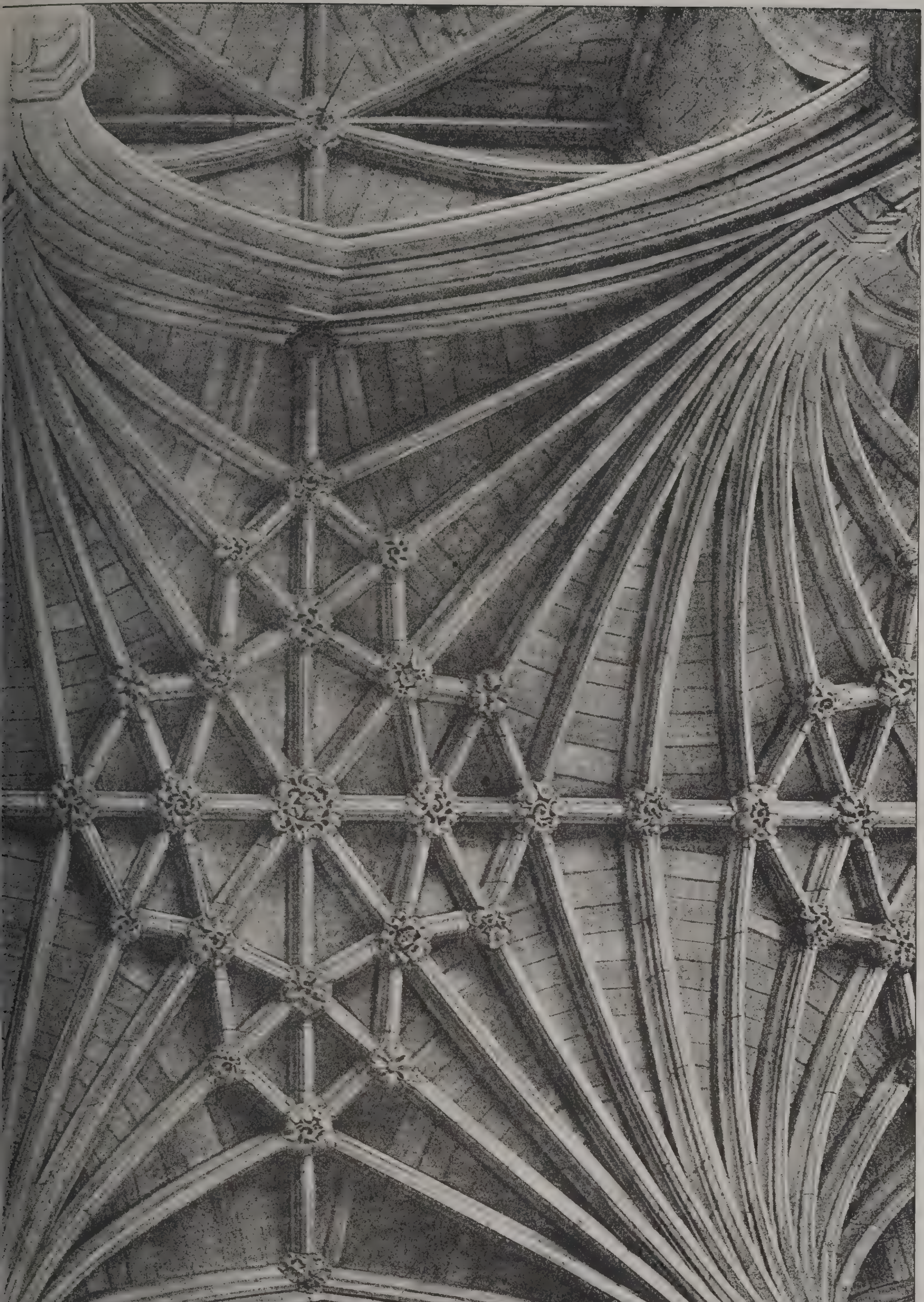

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D Ceiling, St. Mark's Chapel (Modern.)

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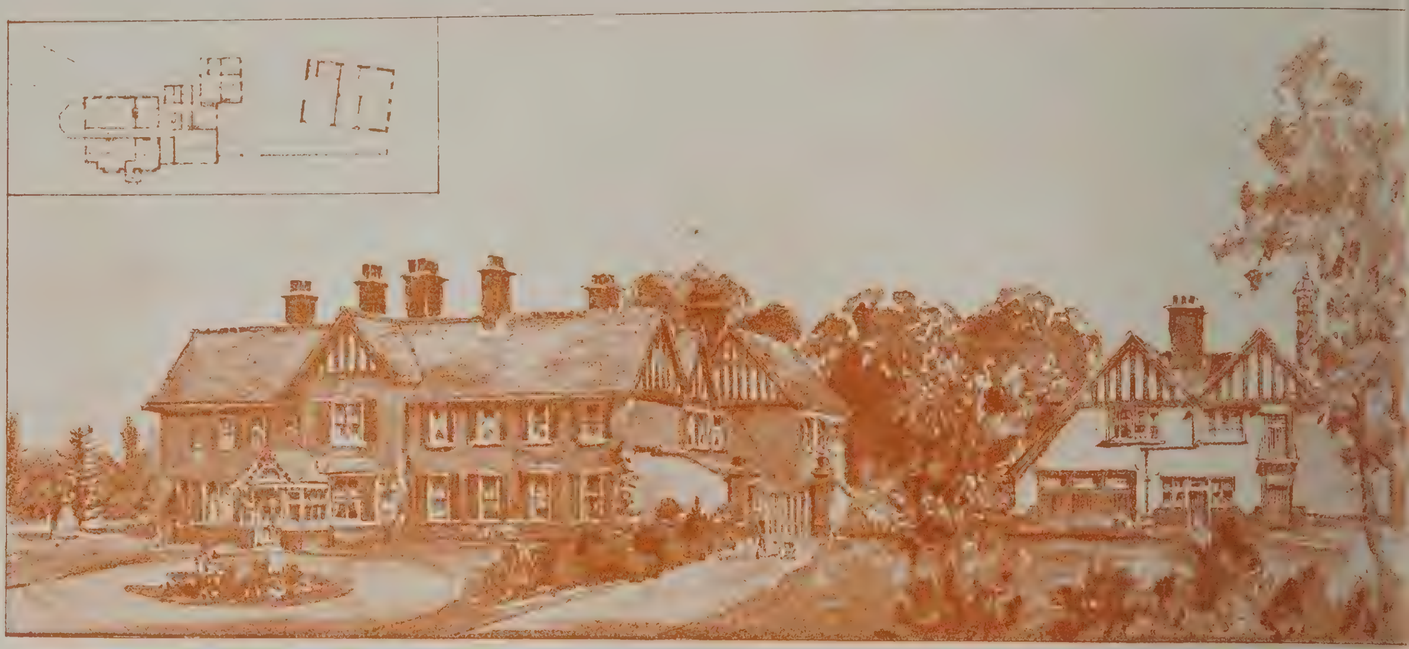

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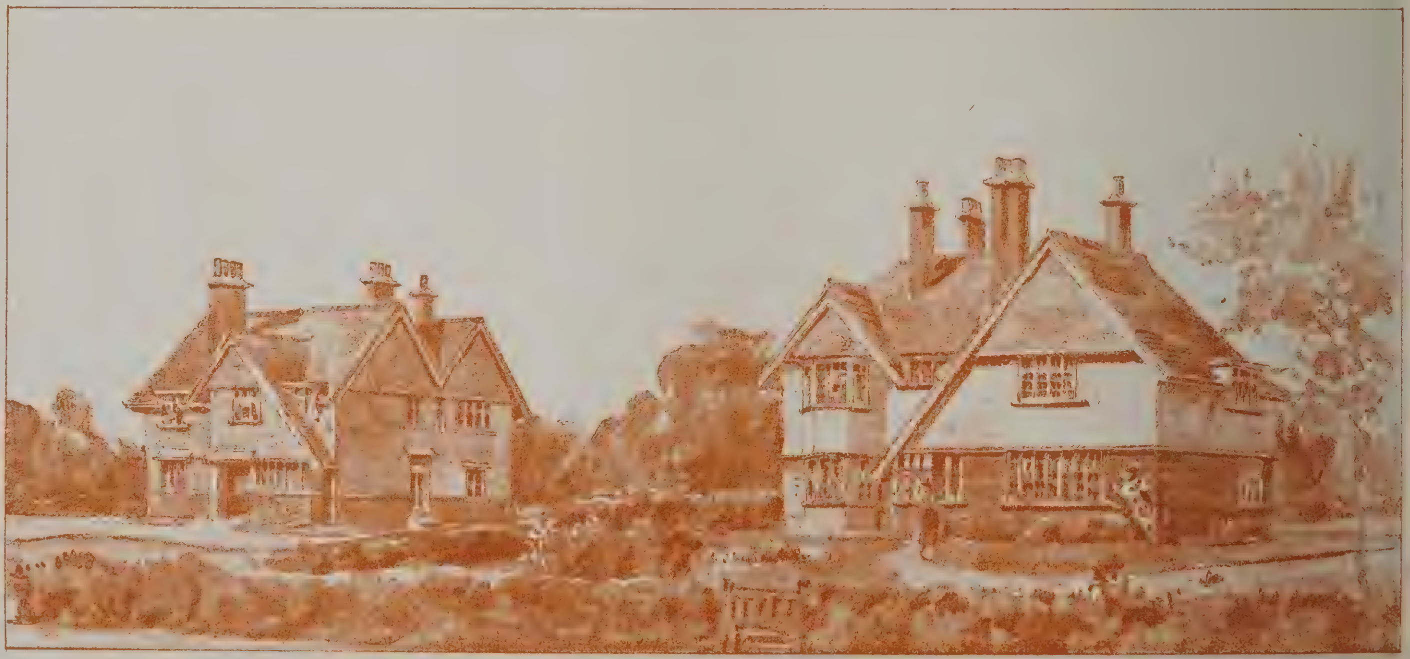
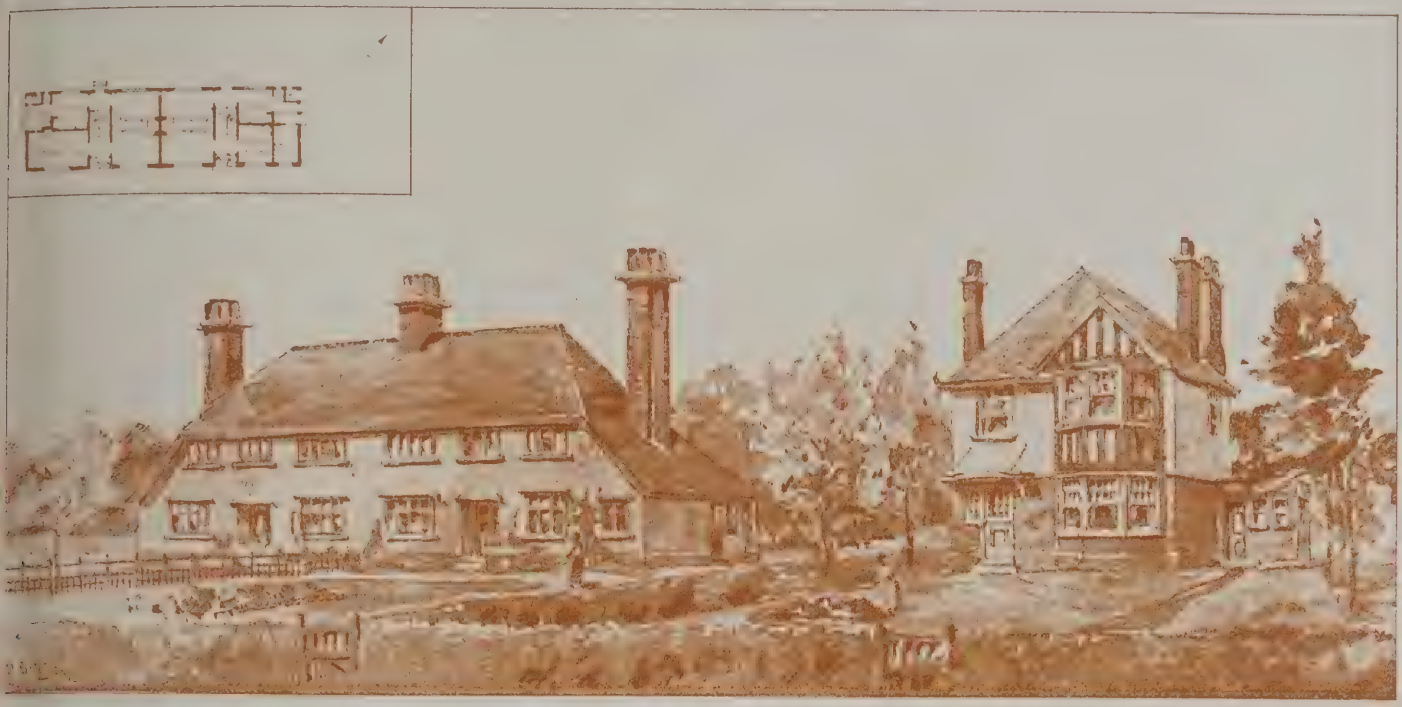


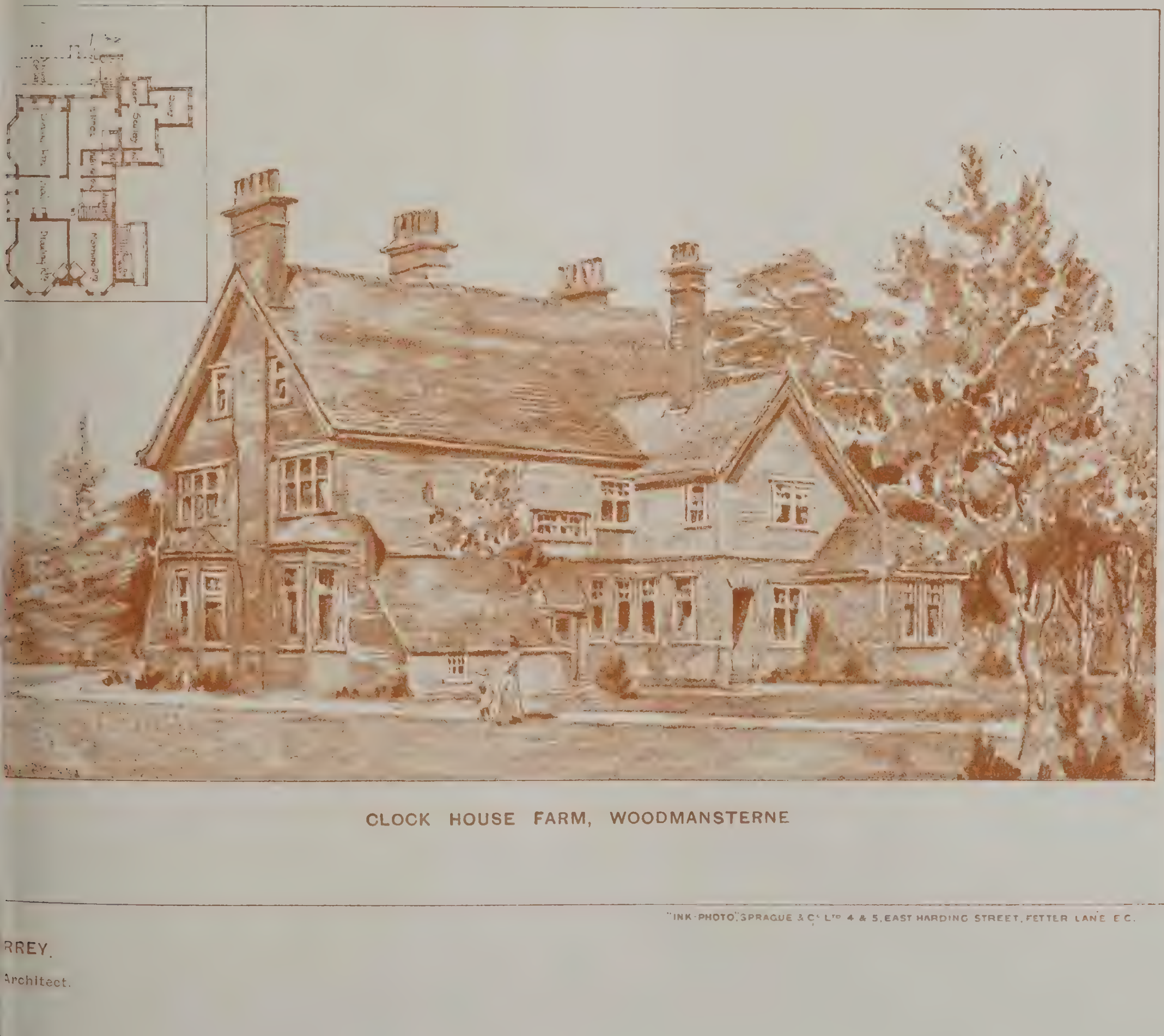
TWO COTTAGES, CHEAM

HOUSES

H. D. SEARL



THREE HOUSES, WORCESTER PARK.



CLOCK HOUSE FARM, WOODMANSTERNE

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RREY.

Architect.

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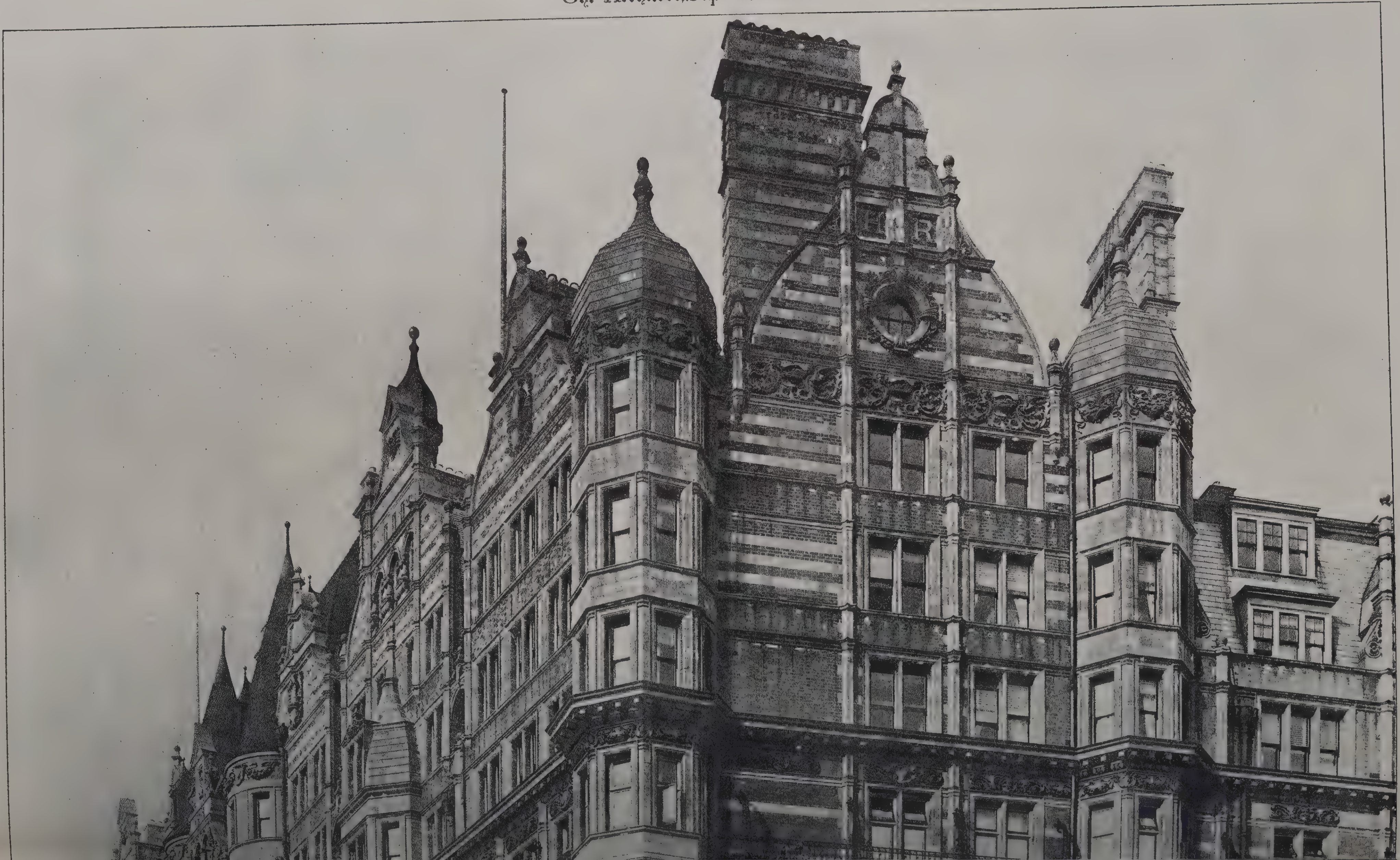
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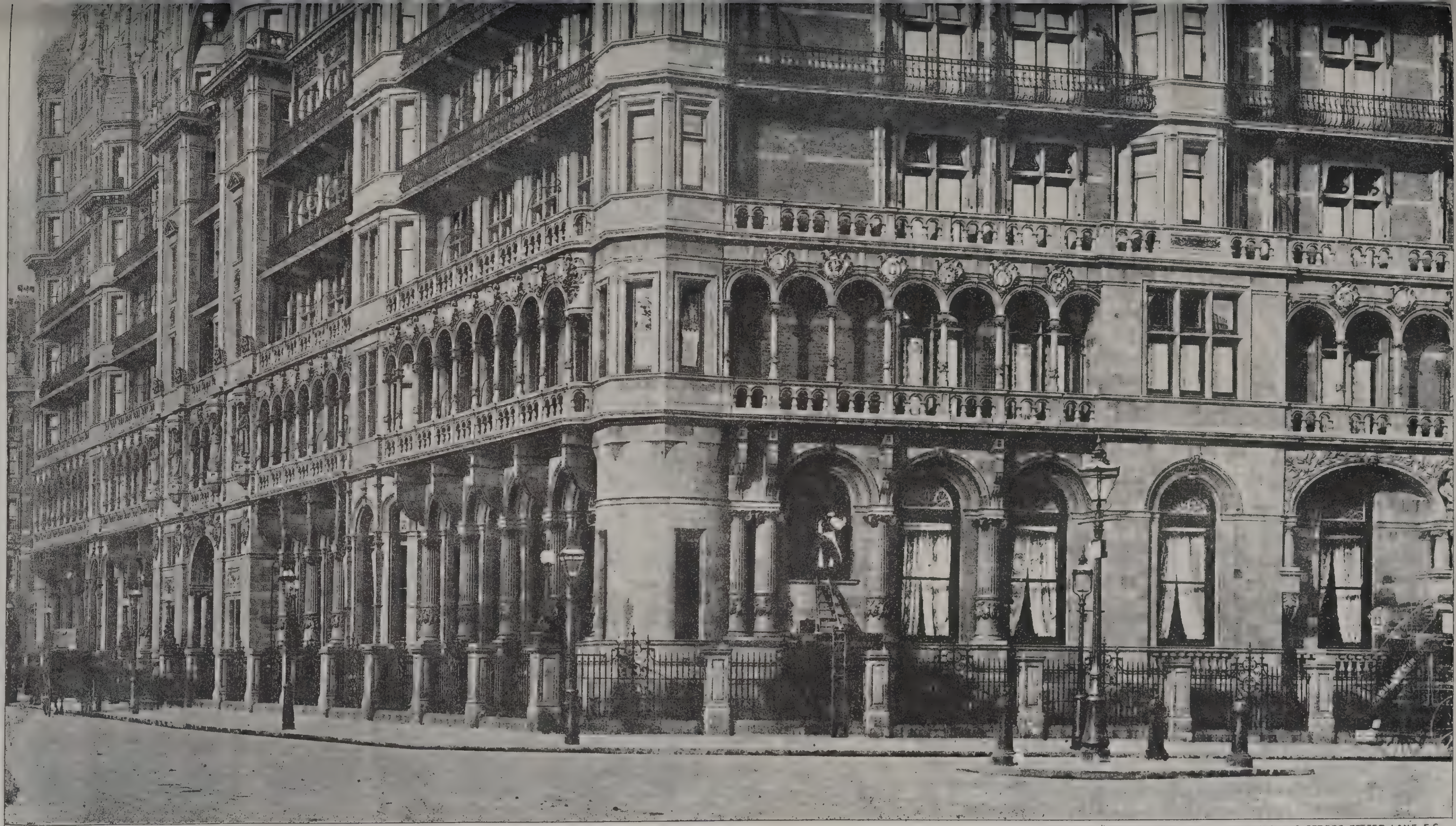

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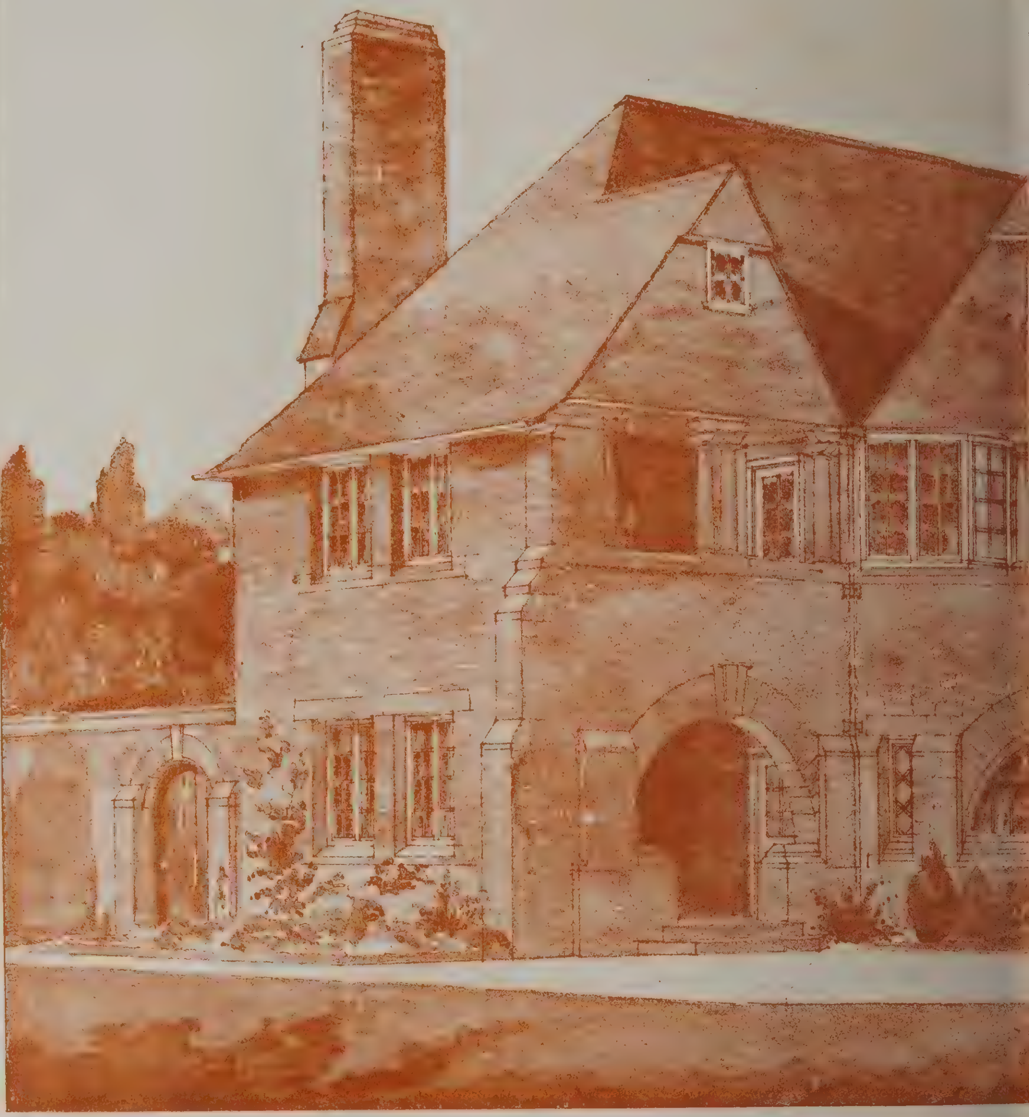
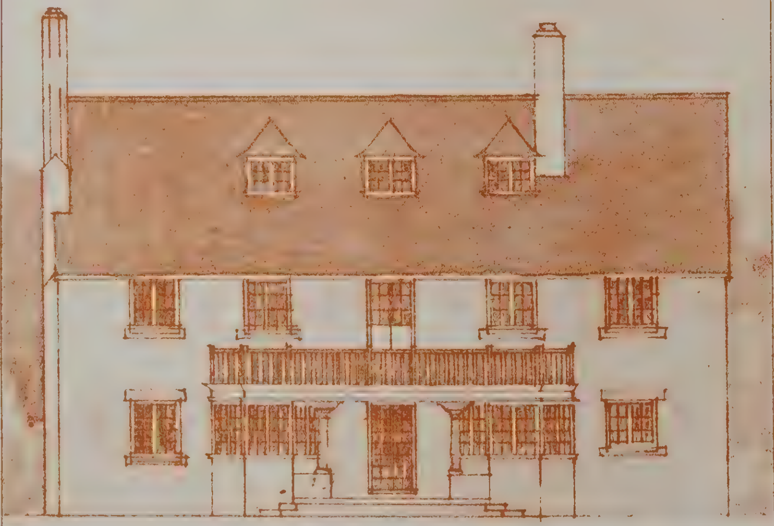
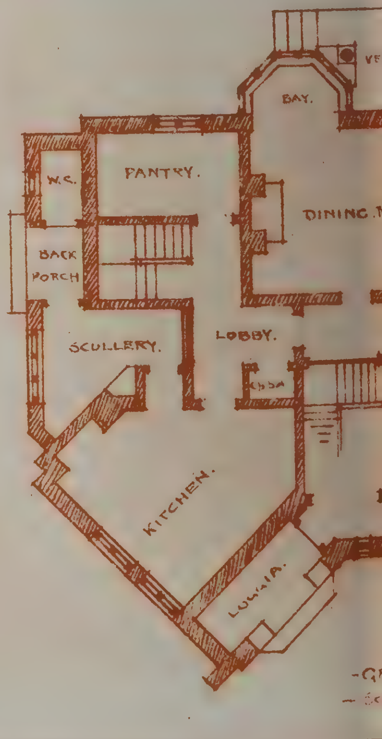




SOVTH. ELEVATION. 1/16" SCALE — —



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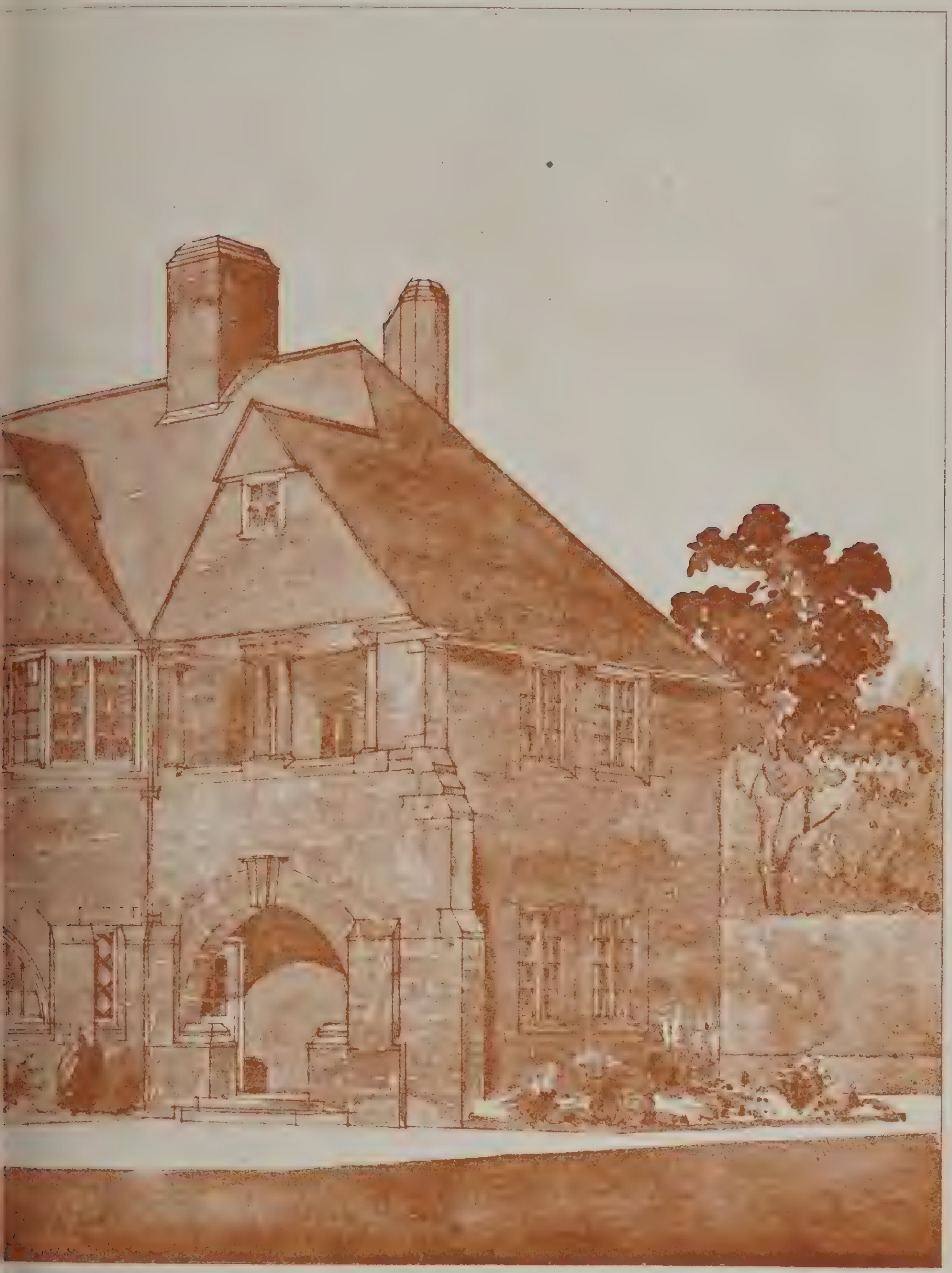

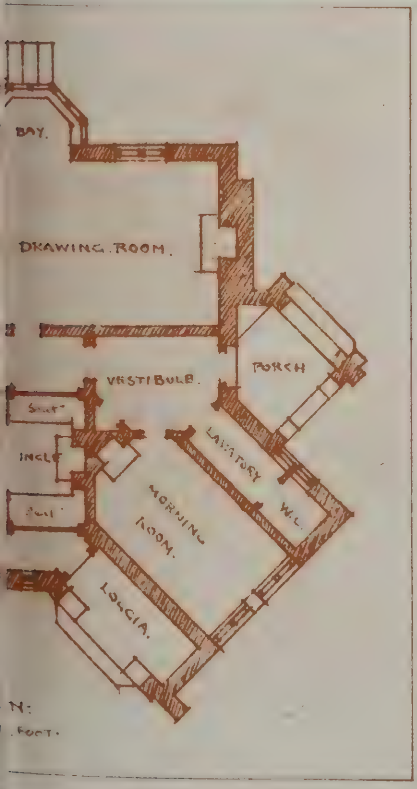

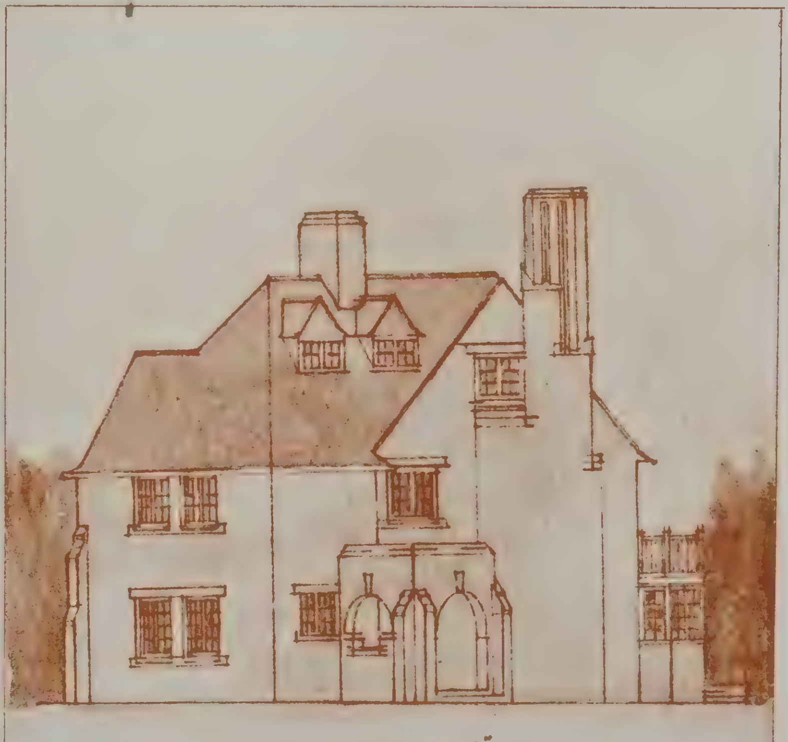

WEST. ELEVATION. 1/16" SCALE.

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ROGATE

itect.

The Architect.

THE WEEK.

When Marlborough House was used as a museum of practical or industrial art a room was set apart for the exhibition of things which should be avoided, and which was supposed to be a Chamber of Horrors. In a museum for the instruction of the public it is no less advantageous to have defective work shown than to present objects which are worthy of admiration. But it was quickly ascertained that not even a Government department could interfere with the property of manufacturers or suggest that their products should not be purchased. The Chamber of Horrors was therefore closed. It is curious to find a desire expressed for its revival. There was a meeting of the Museums Association at Bolton on Saturday. One of the speakers suggested that it was desirable to have in museums not only examples of good work, but examples of bad work —a sort of artistic Chamber of Horrors in which people might learn what they had to avoid. Something of the kind is needed, for defective forms and patterns are still to be seen. But would the Museums Association have the courage to undertake the risks of such an exhibition?

That useful Society, the Glasgow Institute of Measurers, held the annual meeting on Monday, with the president, Mr. John Baxter, as chairman. According to the annual report, there had been a considerable increase in the membership, the number on the register being seventy-two. Six new applicants were admitted, making seventy-eight in all, besides an honorary member. The first examination qualifying for membership under the new rules was held in March last. Ten candidates came forward, of whom in the preliminary two passed in all the subjects, and one had failed in a subject. Two candidates had passed in all the subjects of the final, and five had failed in two or more subjects. A revised table of fees had been approved and adopted. A grant of 2*l.* 2*s.* had again been made for prizes in the building construction classes of the Technical College. It was reported that negotiations were pending with the view of the college certificate being accepted by the Council. The treasurer's statement showed the funds to amount to 573*l.* 15*s.* 2*d.* The office-bearers for the ensuing year are:—President, Mr. John Baxter; vice-president, Mr. Geo. B. Walker; secretary and treasurer, Mr. Thos. N. Hill; auditors of professional accounts, Messrs. Jas. D. Herbertson and Anthony Purdie; other members of Council:—Messrs. John Muirhead, John H. Allan, John Currie, Alexander Davie, John S. Stewart, Colin Young and James Smellie.

The Dublin Corporation are about to appoint a committee to consider the housing of the working classes. But although many houses of the city are in a worse condition than is to be found elsewhere, they are not the only buildings which are dilapidated. The report of the Commissioners of National Education which appeared this week reveals the condition of many of the schools, which must be dangerous to the unfortunate scholars who have to attend them. An inspector describes the Sligo schools as hovels. He says:—"They are unwholesome and unhealthy, and act injuriously on the mind as well as the body, and they oppose a barrier to the best and most elevating influences. They are only tolerated because a kind nature forbears to fertilise too rapidly the seeds of physical disease, which must lurk in such congenial soil. The equipment in these schools is in keeping with the buildings. Several of the houses are merely thatched cabins, badly lighted and ventilated, with poor equipment, and without any premises or out-offices." In another place it was found that offices which were in a very unsatisfactory condition had been returned by the teacher as "good." When asked for an explanation he answered that "they are no worse now than they have been since my appointment here ten years ago; but, of course," he added, "if a decent standard were adopted they are neither good nor clean." William Carleton gave a graphic description of a "hedge-school" of a kind which was found in Ireland seventy years ago, at a time when it was sometimes necessary to abduct a schoolmaster from another district. They have not all vanished, for one at least exists in the county Clare. The inspector says he was not a little surprised "to find upwards of thirty boys and girls assembled under the roof of a little hut receiving a rudimentary education after a fashion that, I should have imagined, had become obsolete even in the time of their grandparents." He cannot understand why the hedge-school could have held its ground so long. It may be that the children are taught much more than in the National schools. For in the latter, it is said, the teachers' business seems to be to supply the pupils with certain answers to be reproduced when required by the inspector. That kind of training is not confined to the National schools. Evidently there is a wide field for the builder in Ireland, in the streets of cities and towns as well as in Government buildings.

According to latest news from Cape Town, the work at the new cathedral was suspended for a time owing to a strike of the masons. The Employers' Liability Act is to come into operation in the colony. The masters endeavoured to provide for compensation by deducting 1*d.* out of every sum of 10*s.* or part of 10*s.* paid in wages. The men had also to sign an agreement to the arrangement. Under the circumstances there was reason for the dissatisfaction of the masons. They consulted the Attorney-General, and he described the action of the master builders as amounting to coercion and intimidation. Afterwards a consultation took place between the Masons' Society and the Master Builders' Association. The result was that the stoppage threatened is not to be carried out, and the conditions of payment will be unchanged. The sum proposed to be deducted as a contribution towards the insurance premiums was not large, but it involved an important principle which justified the action of the men.

A committee was recently appointed to inquire into the needs of the Church of England in Birmingham. At first the most urgent cases were considered. Not less than 100 additional clergy are required. It is recommended that the building and repairing of churches, mission and parochial rooms should be undertaken in the parishes of Selly Oak; St. James's, Handsworth, Holy Trinity, Birchfield, and Holy Trinity, Smethwick, as well as at Small Heath and Sparkhill. The need for the rebuilding or restoration of St. Stephen's, Birmingham, and of Newton Regis Church, Polesworth, is also urgent, for the present churches are found to be perishing and scarcely safe. The condition of St. Laurence's Church and the status of the whole parish also require to be examined into and reported upon without delay. The enlargement of the Old Church, Smethwick; of St. Mary's, Bearwood; of Selly Hill; and the building of new churches in Balsall Heath, Boldmere and Bournville are also declared to be pressing requirements if Church life is to develop vigorously in these parts. The commission also recommend the immediate erection of cheap but permanent structures, to be used first as mission churches, and later on, when the church has been built, as parochial halls, at eleven places. The sum required forthwith is estimated at 60,000*l.* Assuming that one-half that sum may be obtained from local effort, it is suggested that an appeal should be made for 30,000*l.* to be expended on buildings as soon as possible.

CHARLES LAMB AS AMATEUR.

Although Charles Lamb cannot be classed among the great writers of England, no one of them is likely to be more beloved by readers. It is remarkable, however, that his reputation depends not on his early writings, but on the small volume of essays which were derived from the *London Magazine*, commenced in 1820, when Lamb was in his forty-fifth year. If that fortunate opportunity had not presented itself his name would hardly be known. His poems, his manufactured jokes in the *Morning Post*, his "Tragedy of John Woodvil," his contributions to "The Tales from Shakespeare," his "Adventures of Ulysees" and his "Specimens of English Dramatic Poets who Lived about the Time of Shakespeare" would be insufficient to give him renown. Lamb might be regarded as a miniature-painter who was most successful with portraits of himself, his relatives and friends. "The Essays of Elia" form, in fact, an autobiography of Charles Lamb, in which we have descriptions of the people who were connected with him at various times.

It is not necessary for us to consider either the events or the characters which became his subjects. That has been done already by many able writers. We propose merely to treat of Lamb as an amateur. It is needless to mention that as he was a poor man, he never formed a collection either of paintings, drawings, or engravings. In his delightful essay on "Old China" we have a suggestion of Lamb's hesitation in expending a few shillings on a print. His sister is supposed to say to him, "When you came home with twenty apologies for laying out a less number of shillings upon that print after Leonardo, which we christened *The Lady Blanche*; when you looked at the purchase and thought of the money—and thought of the money and looked again at the picture—was there no pleasure in being a poor man? Now, you have nothing to do but to walk into Colnaghi's and buy a wilderness of Leonardos. Yet do you?" There was a little exaggeration in the latter part, for Lamb was never sufficiently rich to acquire masterpieces of engraving. The engraving in question was the *Modestia et Veritas*. He also possessed two other prints after the great master. They were, however, not purchases but presents. He had, moreover, several prints of Hogarth which were hung in narrow black frames on his walls, and which sometimes, as Hazlitt tells us, formed the subject of discussions among Lamb's friends. It could not be said, therefore, that he was an amateur who received much attention from dealers. Nevertheless, few as they were, the prints helped in Lamb's education, for by having them always before his eyes he was enabled to arrive at principles which were beyond the reach of many possessors of valuable pictures.

We may even suppose that in spite of his humble circumstances Lamb was from his infancy surrounded by aids which were likely to develop his taste. His father was the servant, clerk, and generally "the devil," for Samuel Salt, one of the Benchers of the Inner Temple. John Lamb was besides a poet, and also an artist; for, according to his son, "he moulded heads in clay or plaster of Paris to admiration by the dint of natural genius merely." Lamb's elder brother professed to be a connoisseur in art. Charles Lamb said of him, "He disguises a passionate fondness for works of high art (whereof he hath amassed a collection) under the pretext of buying only to sell again—that his enthusiasm may give no encouragement to yours. Yet, if it were so, why does that piece of tender, pastoral Domenichino hang still by his wall? Is the ball of his sight much more dear to him? or what picture-dealer can talk like him?" He had, too, the weakness of many other collectors, of placing an acquisition in a position which suited his own eyes and expecting others to be equally pleased with it. Charles Lamb describes how many a mild *Madonna* was acquired by his brother as a Raphael, then was ascribed to each of the Carracci, and finally became a Luca Giordano or Carlo Marratti. It is easy to imagine how many conversations between father and son over works of art caused the reflective child Charles to regard such things with wonder.

Another influence of an æsthetic kind was to be found in the theatre. Lamb was not more than six years old when he had the privilege to witness "Artaxerxes" at Drury Lane. He had already read parts of the Universal History, and the first scene brought the court of Persia before him. He tells us how "all feeling was absorbed in vision. Gorgeous vistas, gardens, palaces, princesses passed before me. I knew not players. I was in Persepolis for the time, and the burning idol of their devotion almost converted me into a worshipper. I was awe-struck, and believed those significations to be something more than elemental fires. It was all enchantment and a dream." The connection between scenes on the stage and pictures is so close that theatrical managers have wished to emphasise it in some cases by surrounding the proscenium opening by an elaborate gilded frame. So assiduous a playgoer as Lamb was in after years likely to see in many pictures a realisation of the visions which enchanted him in his childhood. The law he laid down about the effect of too much naturalness in a player would preserve him against admiring an excess of realism in a picture, and he may have judged paintings according to their applicability to form tableaux on the stage.

But there was a still stronger influence. Lamb was a Templar born in Crown Office Row in 1775. In those days, even more than at present, the Temple was a world apart, with its church, its hall, its garden, its fountain; and to his young imagination the Thames was only a stream for watering the foot of the garden. Changes occurred in his time which he regretted, but which he had no power to prevent. The church was still "my church," and the Gothic heads were full of devout meaning for the young dreamer. It must have taught him to find "the beauty of holiness" in country churches and the advantage of drinking in the "tranquillity of the place, till thou thyself become as fixed and motionless as the marble effigies that kneel and weep around thee." There were other buildings which captivated him. A relative had care of Blakesware House, and he was allowed occasionally to visit it. He had probably dipped into some romance, and the puny child imagined that he was the true descendant of the original owners. He conferred his family name on the portraits; and the figures, as he thought, would seem to smile at him, reaching forward from the canvas to recognise the new relationship. There was a marble hall with busts of the Cæsars, and as he gazed on them he wondered at the frowning beauty of Nero. An antique image stood in the wilderness beyond the garden, and, as he said, "Child of Athens or old Rome paid never a sincerer worship to Pan or to Sylvanus in their native groves than I to that fragmental mystery." Afterwards, when he visited Blakesware, the house had been demolished, everything was indistinct to him; a few bricks only remained as representatives of the spacious and stately mansion, of which he would gladly have accepted a plank as a memorial. He received another impression from a building of a different kind when he took up his first appointment as temporary clerk in South Sea House. He had been previously for seven years in Christ's Hospital. But although he escaped the lash of the brutal Bowyer, he was too frightened by the sight of the dungeons (where boys who were captured after running away were imprisoned before their scourging round the hall and dismissal) to care much for the structure. South Sea House appeared to his eyes after the Newgate Street building as a desolate palace having magnificent portals, stately porticoes, imposing staircases and offices like State apartments.

Everything in it seemed to him as parts of a noble antique. It might be supposed that Lamb would have revelled in Westminster Abbey. But the charge of two shillings which was made for admission excited his ire. The Abbey has had, however, enough of praises from English writers to dispense with anything that Elia could add. It was necessary that a building should have a personal interest for him before it could be considered as one of his idols. The buildings in London which, according to one of his friends, he was accustomed to admire were Inigo Jones's Banqueting Hall, Somerset House, Limehouse Church, Savage's church of St. Luke at Chelsea, and the Bell House at Chelsea College.

There were friends of Lamb's who could strengthen the opinions about art which he derived from his early surroundings. George Dawe, the Royal Academician, was one of his cronies. It was in the days, however, when Dawe was a Bohemian, and by no means a clean one. Lamb was usually careful and restrained in what he wrote of the men who knew him. But he wrote about the painter in a style which gave rise to some controversy. It was not necessary to inform the public that on one occasion Dawe fed his guests on cat's meat. Haydon was another acquaintance. But more influential than either of them would be Coleridge and Hazlitt. The former could talk of all things on earth, and he held exalted notions about art. To Lamb he was an oracle. Hazlitt was, however, more likely to make his mark upon a student. He could not only talk and write, but he was able to paint. If he were less fastidious, and did not believe that because he made himself a lawgiver in his essays the public expected him to produce nobler paintings than Raphael, he would in course of time have gained a prominent position among English artists. He described Lamb as a good judge of prints and pictures, and competent to admire Hogarth as well as Leonardo da Vinci. He suggested the genuineness of Lamb's admiration when he wrote, "his worst fault is an over-eagerness of enthusiasm, which occasionally makes him take a surfeit of his highest favourites." There were others who were able to testify in a similar way to Lamb's capabilities for appreciating what was good in art. There was no man at the time who was more assiduous in visiting picture galleries. Indeed, for a brief space they superseded the attractions of the theatre with him. It should be remembered that up to 1824 there was no National Gallery, and the number of exhibitions was very much less than at the present time. An extract from a letter to Hazlitt will suggest Lamb's delight when he was able to see paintings:—

> What do you do in Shropshire when so many fine pictures are agoing every day in London? Monday I visit the Marquis of Lansdowne's, in Berkeley Square. Catalogue 2*s*. 6*d*. Leonardos in plenty. Some other day this week I go to see Sir Wm. Young's, in Stratford Place. Hulse's, of Blackheath, are also to be sold this month, and in May the first private collection in Europe, Welbore Ellis Agar's. And there are you, perverting nature in lying landscapes, filched from old rusty Titians, such as I can scrape up here to send to you, with an additament from Shropshire nature thrown in to make the whole look unnatural. I am afraid of your mouth watering when I tell you that Manning and I got into Angerstein's on Wednesday. Mon Dieu! Such Claudes! Four Claudes bought for more than 10,000*l*. (those who talk of Wilson being equal to Claude are either mainly ignorant or stupid); one of these was perfectly miraculous. What colours short of bona-fide sunbeams it could be painted in I am not earthly colourman enough to say; but I did not think it had been in the possibility of things. Then, a music-piece by Titian—a thousand-pound picture—five figures standing behind a piano, the sixth playing; none of the heads, as M. observed, indicating great men, or affecting it, but so sweetly disposed, all leaning separate ways, but so easy, like a flock of some divine shepherd; the colouring, like the economy of the picture, so sweet and harmonious, as good as Shakespeare's "Twelfth Night"—almost, that is.

The comparison between Claude and Wilson was an anticipation of what was afterwards said by Hazlitt. In the days when he was an enthusiastic admirer of Claude people told him Wilson was superior. "Their pictures," Hazlitt adds, "have since been seen together at the British Institution, and all the world have come into my opinion."

It is to be regretted that Lamb did not enrich the world with more and longer essays about art. He wrote an essay on Hogarth in 1811. In it he analysed the print called *Gin Lane*, one of those which the majority of writers would avoid. He compared it with Nicolas Poussin's *Plague at Athens*, and conferred the palm of superior genius upon Hogarth's work. He called attention especially to the gap in the wall through which a part of a funeral procession is shown. This extending of the interest beyond the bounds of the subject, says Lamb, could only have been perceived by a great genius; and he refers to the painting of the Trojan War in Shakespeare's "Lucrece" as authorising similar treatment; imaginary work where the spectator must meet the artist in his conceptions halfway. The faces in the *Ugolino* and *The Death of Cardinal Beaufort*, by Reynolds, are not, it is maintained, comparable with the face of the broken-down victim in *The Rake's Progress*. Afterwards Lamb returned to the subject in one of the "Essays of Elia," when he writes of the "Barrenness of the Imaginative Faculty in the Productions of Modern Art." In this we find plainly stated his objections to John Martin's *Belshazzar's Feast*, which had lately appeared. It is explained that the scene, as described by Daniel, was visible only to the king, and that there was no authority for such a crowd of princes, concubines and wives as the artist had represented. The old masters would not have treated the subject in so grandiose a manner. "By a wise falsification," says Lamb, "the great masters of painting got at their true conclusions; by not showing the actual appearances, that is, all that was to be seen at any given moment by an indifferent eye, but only what the eye might be supposed to see in the doing or suffering of some portentous action." He instances the impossibility of painting such a picture as *The Destruction of Pompeii* in detail, because no eye could, at such a time, take in the whole of the scene.

The principle that is involved has been suggested by De Quincey when writing of a conversation with Lamb over style in literature. He contended that Lamb was most successful in passages which consisted of a few sentences only, for "the gyration within which his sentiment wheels, no matter of what kind it may be, is always the shortest possible." De Quincey, on the contrary, believed in the pomp of cadence, the sonorous ascent of clauses towards a climax. As an instance of the necessity of pomp he quoted the statement, "Belshazzar, the king, gave a great feast to a thousand of his lords," and he asked whether a composer, the leader of a mighty orchestra, would treat such a theme with simplicity? Lamb, however, according to De Quincey, had not the epic taste. This, perhaps, will explain some of his criticisms. But he was no admirer of Dutch scenes and low subjects. There is not a better criticism than is found in his remarks on the *Raising of Lazarus* in the National Gallery, and what he says of some of Raphael's works, although based on coarse engravings, will help the student to understand many of the painter's characteristics. Lamb had a hatred of all affectation, unless the defect was so deeply rooted in a man as to be inseparable. The efforts by commonplace artists at the sublime were therefore as obnoxious to him as the tragedies in King Cambyses's vein. He never concealed that his opportunities for the examination of pictures were very limited. But as he studied all their details in a loving industry, he succeeded in doing more than the travelled amateur. What he wrote about art is exceedingly limited, but it suggests the peculiar genius of Lamb as well as other parts of his writings.

THE USHER HALL COMEDY.

ALL who respect the principle of municipal government must regret the conduct of the Town Council of Edinburgh in respect of the proposed Usher Hall. Never was there such tergiversation as in that affair. More than nine years have elapsed since Mr. Usher not merely offered but actually paid the sum of 100,000*l.* which was to be applied in or towards the erection of a city hall. It was intended to serve for concerts or other performances of a musical nature, and for civic functions. The hall could also be let for concerts, &c., the donor's desire being "that the said hall and premises should become and remain a centre and attraction to musical artistes and performers and to the citizens of Edinburgh and others who may desire to hear good music, instrumental and vocal, and that the opportunities afforded by the said hall and premises may promote and extend the cultivation of and taste for music, not only in Edinburgh, but throughout the country." What has been done to realise so generous an intention? At the present time the Usher Hall is as much of an abstraction as it was in 1896.

It was expected that a site should be provided. The first series of battles took place over the selection. More than a dozen sites were proposed. In October 1898, or two years after the initiation of the project, the Town Council had not arrived at a selection, and it was agreed to obtain a report from the late Mr. Waterhouse, R.A., on the subject. He recommended the adoption of the "West Meadows." But that site was not approved. The next step was to apply for an Acto enable the Corporation to acquire compulsorily protperty in Atholl Crescent, and they were successful. As after three years advantage had not been taken of the provisions, it was resolved to let that Act lapse and to seek a new one authorising the purchase of the Synod Hall and other premises at Castle Terrace. The Hall was obtained at a cost of 30,000*l.* before an Act was sought. One of the clauses authorised the application of the money given by Mr. Usher to the purchase, although originally it was understood that a site was to be provided by the Corporation.

It seemed opposed to Scottish principles that a building should be purchased in order to be demolished. But at the end of 1903 the predominance of corporate opinion was in favour of removing the buildings and using the ground as a site for the Usher Hall. The question of a design then arose. Some proposed the usual course, and which, as events have proved, would undoubtedly have been the most advantageous, viz. having a competition. That would, however, suggest independence of the Council and its wisdom in building affairs. Eventually it was arranged that the plans were to be prepared by Mr. Morham, the city architect, and his deputy, Mr. Williamson. No time was lost in carrying out that part of the operations. In the beginning of February 1904 the special committee recommended the approval of the plans, which represented a building which would cost 145,000*l.* Schedules were got out and tenders obtained. But at the end of 1904 the building had not advanced beyond the paper stage. Further consideration demonstrated that there were some shortcomings in the design, especially as regards the acoustics. Sir Aston Webb and Dr. Frederic Cowen were invited to examine the plans, and in July they submitted a report, which we have already published, with various suggestions.

The amended propositions were discussed at a meeting of the Town Council held last week. Some of the members must have felt that, although not one stone had been laid, a great deal of money had been expended on the project during the past nine years. There was, on the other hand, the interest on Mr. Usher's gift, which would go towards meeting the various fruitless expenses. The economists must have felt that to demolish the Synod Hall would be simply a continuance of the wasteful procedure which was adopted from the beginning. The question, therefore, was whether the Synod Hall, after being repaired and decorated, could not be used for the purposes indicated by the donor, and that the rest of the money given by Mr. Usher should be allowed to accumulate until it was sufficient to pay for building a hall on a suitable site. In other words, that was a condemnation of the whole of the policy hitherto adopted by the majority of the Corporation.

It is not difficult to imagine how such a question would be discussed. Prominent members were charged with inconsistency. But the truth was that very few members of the Corporation who had anything to do with the different stages could be considered as consistent. In the voting the adaptation of the hall was approved by two to one, but the decision can hardly be considered as final or binding. At first it was expected that there would be no difficulty in carrying out Mr. Usher's desires. But the owners of property had no wish to imitate his generosity, and the price demanded for a site resembled those which are common whenever a railway terminus has to be enlarged. No doubt the prices were raised owing to the peculiar conduct of the Council. But it should not have been forgotten for a moment that the money was bestowed by Mr. Usher and formally accepted by the Corporation on the understanding that it was to be applied in or towards erecting a city hall. We do not know what kind of dictionary the Council may possess, but in plain English "erecting" means building, and not the purchasing of a structure that was arranged for a different purpose. The Council should have known the value of property in Edinburgh, and if they were not resolved to realise Mr. Usher's intentions in a faithful manner, as they led him to suppose, they should have informed him that the sum given was inadequate. As a man of business he might then have demonstrated that a hall could be built for the money, or from his investigation he might have discovered that a larger sum was required, which would be forthcoming.

When it is remembered that nine years' labour has only ended in so impotent a conclusion, it becomes quite evident that there is some defect in the Edinburgh Council. At present it appears as if the project of a city hall was doomed to become a fiasco. There are wealthy citizens in Edinburgh, and if they could be persuaded that the affair was handled properly they would be likely to come forward and supplement Mr. Usher's generosity. But anyone who remembers what has been done during nine years would be sacrificing money if it were entrusted to rulers who have acted in so unbusinesslike a manner. Under the circumstances the best course would be for the Council to confess their inability and to appeal to the people of Edinburgh to extricate them from the difficulty they have created. If that were done, and if the usual course were adopted of allowing unofficial architects to design a music hall which would be a credit to Edinburgh, there is little doubt that civic pride would rescue the Council from their present imbroglio.

CANALETTO'S VIEWS OF VENICE.—XI.

WHEN arranging the divisions of the Grand Canal for his etchings it is evident that Canaletto was anxious to give prominence to buildings of the Renaissance period. He is not to be blamed for according a preference to the style which was practised by his contemporaries rather than those representing earlier periods of architecture. The building on the right of the illustration is the Palazzo Vandramini, which Mr. Fergusson considered to be the most beautiful example of its class in Venice. According to him "nothing can exceed the beauty of the proportions of the three cornices, and the dignity of that which crowns the whole. The base, too, is sufficiently solid without being heavy, and, the windows being all mul-

A View of the Grand Canal from the Palace Grimani to the Canal Regio.

lioned and the spaces between reinforced with three-quarter columns, there is no appearance of weakness anywhere, while there is almost as much opening for light and air as in the Palazzo Trevisano or any building of its age." It must be owned, however, that the uniformity of the windows is not entirely advantageous, and that the height, through being divided into three equal parts, suggests an effort to satisfy three different owners. An effort was made to avoid monotony by bringing the central windows in each storey close together, and the arrangement is impressive. There is also a vast difference between the façade facing the Canal and the sides of the palace, which suggests how fond the Venetians were of ostentation. The building was expected to be looked at from a gondola, and the sides were in this case, as in most others, left plain. The palace was erected in 1481 for the Doge Andrea Loredano. The architect was Pietro Solaro, generally known as Pietro Lombardo. He designed several important buildings in Venice, and he held the office of Protomaestro of the Doge's palace. In 1681 the palace was sold to the Duke of Brunswick, and he disposed of it to the Duke of Mantua. At a later time it became the property of the Duchesse de Berry and passed to the Comte de Chambord. Wagner, the composer, occupied a part of the building, and it was there he died.

On the opposite bank of the Canal first are seen two palaces which are believed to have been designed by Longhena. Afterwards we see the building known as the Fondaco de' Turchi. Although from a very early period of its existence Venice transacted business with the East and the building appears to be ancient, it did not receive its present title until the eighteenth century. It has been greatly altered, but there is reason to assume that it is a building of the twelfth century and that others resembling it were to be found on the Grand Canal. It is now used as a museum, in which many examples of ancient Venetian sculpture and paintings are to be seen. They were derived from the Correr Museum.

TINTERN ABBEY.

The latest report of the Commissioners of His Majesty's Woods, Forests and Land Revenues for the year ended March 31, 1905, contains the following account of the works which have been carried out during the last year at Tintern Abbey, under the supervision of the architect, Mr. F. W. Waller :—

Great East Window.—The most important work carried out during the past year has been that connected with the great east window. A scaffold was erected from the ground to the apex of the eastern gable, and a most careful examination was made therefrom of the remains of the stonework of the window and of the gable above, and parts adjoining. It was found that the walls and buttresses, the jambs and arch of the window, and the gable over, though much affected by weather, were on the whole fairly substantial, and not much out of perpendicular, but the large centre mullion and the remains of the tracery in the head of the window were in a very dangerous state. The large mullion was built in two sections, the outer half being of hard stone and the inner half of stone of a much softer character, and these were bonded at long intervals by a few narrow through stones. The mullion was much out of upright, and had been supported by an iron stay. The large stones forming the main outlines of the tracery above had sunk and twisted out of place, and the joints had opened to such a degree as to occasion surprise that the stonework still remained in position, and especially so looking to the weak and unreliable state of the mullion beneath, which constituted the sole support. The utmost care and consideration were bestowed upon the problem of how best to deal with the stonework with a view to its permanent preservation, without alteration or addition; a number of different schemes were drawn out and discussed, and ultimately what appeared to be the only thoroughly satisfactory solution of the difficulty was adopted, viz. the stonework was reset. Most fortunately, some pieces of the main tracery which had fallen were found, thus it was possible to complete the large ring in the head of the window as formerly existing, and at the same time add to the stability of the whole. The gable above, and window therein and the walls adjoining have been protected and pointed to exclude wet, and the whole work has been effected without any structural change or alteration in appearance.

Transepts.—The sill of the large south window of the south transept and the coping over the arch of the doorway beneath were in a very bad condition; the whole work has been reset in its former position, and pointed and protected to prevent water running through into the walls and arch under. The sills of the other lower windows have been treated in like manner. In the north transept the steps to the upper doorway have been replaced and a portion of the stone seating against the walls repaired, and the sills of the lower windows have been pointed and protected, and the door at north-east corner opened and arched over.

North and South Aisles.—The sills of the windows have also been pointed and protected. The level of the old floor at the west end has been ascertained, and a small piece of the paving laid bare, and the steps at the western entrance reinstated; certain of the buttresses on the south side have been underbuilt where the lower part had been removed and the upper part had been left hanging over in a manner to endanger stability.

General.—Much-needed works have also been carried out in connection with the preservation and repair of the refectory and the reader's pulpit therein, the lavatory and the walls adjoining, as also of the kitchen and other offices. The important work to the sacristy begun in 1904 has been safely and satisfactorily completed, as also that to what now forms the public entrance to the building. Several interesting discoveries have been made, part of the foundations of the original buildings have been laid bare, the dwarf wall of the cloisters and the drains from the lavatory, and the foundations of what was apparently a small chapel at the western end of the south aisle and of a Galilee at the west entrance.

A large amount of very important work still remains to be done, and perhaps the most pressing is that in connection with the eastern arch of the tower. This arch is much crippled and out of place, and its fall might be productive of almost irreparable damage.

CHICHESTER CATHEDRAL.

An appeal is being made for the assistance of Churchmen throughout the diocese of Chichester, and indeed throughout the country at large, towards the further repair and restoration of Chichester Cathedral. Since the date of the last appeal made by the committee, which resulted in a subscription of 1,800*l.* and upwards, they have been actively engaged, says the *Sussex Daily News*, in completing various minor repairs, and more especially in that most necessary work, the repointing of the cathedral, as to which Mr. Somers Clarke, the consulting architect of the cathedral, has advised that it is the most important work which has been undertaken for many years in connection with the preservation of the building, and that he is entirely satisfied with the excellent manner in which it has been commenced and carried out by Mr. Vick, the cathedral builder, and his masons. The committee have also been proceeding with the repairs to the bell tower, on which more than 500*l.* has been expended in rebuilding two of the turrets, which were in a dangerous condition, and restoring the base of the tower.

Roof.

Mr. Somers Clarke considers it to be of vital importance that the repairs to the bell tower, which have been begun none too soon, should be forthwith carried through to completion, and states that when these have been effected on the lines that he has indicated this unique fabric will be placed in a condition which will enable it to withstand the ravages of time for another century at least if not longer. He has also called attention to the urgent necessity for the repair of the roof of the cathedral, as to which he remarks:—"I have, with the cathedral surveyor, Mr. Gordon P. G. Hills, examined the roof of the nave and choir. The lead is eaten into holes in a multitude of places, and is patched to the limit of its endurance. If not soon repaired the wet will damage the timbers, which up to now are in good condition." Mr. Somers Clarke has advised that the sum of 5,000*l.* will cover the expenses connected with these two matters, and he has further expressed an opinion that, when they have been carried out, he will be able to report that the buildings are structurally sound and will not require repair of this description for a considerable period.

It is hoped, by the timely and judicious expenditure of the 5,000*l.* thus asked for, that the cathedral will, as far as human foresight can discern, be placed in a condition practically of complete structural soundness, requiring only the necessary yearly expenditure which the preservation of all large buildings entails, to secure the fabric and its precious contents for many generations to come.

HABITATIONS IN THE LEWS.

A Report has been prepared for the Local Government Board for Scotland on the sanitary condition of the Lews, by Dr. F. Dittmar and Mr. A. B. Millar. They visited the northern island in last April. Describing the "squatters'" houses they say:—In the township of Back there are about 100 to 120 houses, of which some twenty or thereabouts belong, not to crofters, but to "squatters," who have built houses without permission asked or given on the part of the estate, and who live in these houses rent and rate free, the estate refusing, we understand, to accept rent even when offered. The "squatters'" houses are, as a rule, in all respects superior to the crofters' houses, and, indeed, in the majority of instances, are the only habitable houses in the place. The "squatter" is usually the crofter's son or son-in-law, and follows the fishing. He is both willing to, and actually does, pay the crofter's rent, besides working the croft for the old people. His own house is built either on the croft itself or on the common grazing ground belonging to the township. When on the latter land is usually trenched, &c., to form what is in reality a "croft" for the "squatter." In Back we counted nine houses of superior construction, that is, of stone and lime, or of cement, or with cement gable walls and roofed with slate or felt. All the other houses, with the exception of these nine, are of the following type:—The walls are composed of two rows of loose stones with earth between, and are about 5 to 6 feet thick. Occasionally part of the walls (usually at the living and sleeping-room end) are of stone and lime. Sometimes they are formed wholly of turf. The roof is composed of a wooden framework on which turf is laid and covered by straw thatching. In the great majority of instances the roof does not cover the whole breadth of the wall, but rests on the earth between the rows of stones. Although it withstands the Atlantic gales, this type of roof leaves a grass-grown space of about 2 feet between the thatch and outside walls, and allows of thorough percolation of the house-walls with moisture. The inside walls of the living and sleeping-rooms are in most cases covered with a thin layer of clay, which is whitewashed. The houses are entered through a door leading into the byre, and from it you either enter the living-room directly or through a door in the wooden partition. The floor of the house is simply the surface soil covered with a thin layer of clay, and the whole house can be described as consisting of three parts, all under one roof, viz. (1) a living-room in the centre and on either side of it, (2) a sleeping-room and (3) a byre. The living-room, usually about 12 feet by 12 feet, contain a few chairs and a wooden bench or two, with, in some cases, a dresser. In the centre of the clay "floor" is a peat fire, the smoke curling up from which finds its way out by a hole in the roof, or, as often as not, through the thatch and the door. What can be aptly described as "icicles" of soot hang from the roof beams. One or two small windows about 2 feet square admit light, and in some cases the upper part of one of these can be opened. Sitting around on the floor, and, as a rule, in their stockings, are old women and young barefooted children. At times sheep, lambs and other animals are added to these. On one side of the living-room, and separated from it by a wooden partition 6 to 7 feet high, is the sleeping apartment, about 18 feet by 12 feet, or 12 feet by 12 feet. This contains two and sometimes three box beds arranged along one side of the room, and covered by wooden roofing, which slopes towards the wall to keep off the rain which finds its way in through the thatch. Along the other side are placed three or four boxes which contain the belongings of the household. The floor is of clay as in the living-room, and there is no fire. The windows in the roof, or partly in walls and roof, are small, 2 or 3 feet square, and usually one at least is made to open. Where gable windows were provided, we usually found these wholly open. In some sleeping apartments there is no window at all, only a small hole in the roof about 9 inches in area. At the other side of the living-room, and separated from it by a similar wooden partition about 6 or 7 feet high is an apartment about the size of the sleeping-room. This is the byre. After one's eyes are accustomed to the dark and the smoke, one sees that in the byre there is a large accumulation of manure about 3 to 4 feet above the level of the living-room floor. On this heap are standing one or two cows, and occasionally a horse and some sheep. Sometimes these animals are up to their knees in the manure. A little energy and attention on the part of the occupiers would greatly improve the immediate surroundings of the houses, as was seen in one or two instances where the entrance from the road to the house was gravelled after having been bottomed with larger stones. One squatter had a cabbage-garden along the whole front of his living-room surrounded by a 2-feet stone wall and fenced by wire-netting. His was the only cabbage-garden we saw in the two townships. The general state of the roadside water-channels in Back and Tong showed room for urgent attention on the part of the road authority. Their condition was simply disgraceful. It is clear that little, if any, attention is paid to them. Among these squalid and most miserable surroundings one is astonished to find healthy-looking young men and women. One is not surprised to hear that, as Dr. M'Donald informed us, whole households have to his knowledge been carried off by phthisis. With the exception of nine houses all those in Back are of the same construction as the one described. We took details of twenty and looked into many more in our walk through the townships. The stone and lime houses, built in many instances by squatters, are the only ones fit to live in and cattle are not housed in them, there being no accommodation for this purpose. Only in one squatter's house among the many we visited did we find cattle present, and in this case there was a clean-swept passage about 3 feet in width between byre and living-room. It is only fair to mention that this house is in course of reconstruction. Cattle-housing is the almost invariable rule, not the exception, in Back and Tong, and these townships are typical of others in the parish. The entrance to the houses is the same for cattle and human beings. In some instances there was a separate entrance built for the horse at the end of the byre. Where two or three houses are built side by side the side walls are partly in common, and the internal arrangements are such that the byre of one abuts on the sleeping-room of the other. There cannot but be percolation of fluid from the heaped manure in the byre of one house into the sleeping apartment of the next one. This condition of affairs is far from uncommon; it is the rule when two houses are side by side. In some of the worst of the houses (for there are degrees of badness even here) one had to walk over the manure heap to get into the living and sleeping-room beyond, not merely past it. In the township of Tong, where we examined several of the houses, the conditions are similar. There also the only habitable houses belong to squatters. In the others there are cattle-housing and all the other conditions as described for Back.

There are two classes of dwellings in Arnol, besides the few stone and lime ones, both equally insanitary. In the one class of house one enters the byre by a narrow and low passage, on either side of which is a horse stable and a sheep pen. In structural continuity with the byre is the living-room, there being no semblance of a partition. Beyond the common living-room and byre is a 6 to 7 feet partition separating this space from the sleeping-room, which contains two or three box beds. In all the houses entered there was a bed in the living-room also. The walls are of the usual construction, two rows of loose stones with earth between. The roof is of the type already described. Inside there was no clay on the walls, only the bare and wet stones. The floors were clayed and the peat fire was burning in the centre of the living-room, and filled the whole house with an irritating smoke. On the whole, the state of poverty of the inmates was even more abject than in Back and Tong, as in some cases there were neither chairs nor wooden seats, but merely a plank resting on large boulders on the floor. The houses were more than usually dark, the only light available in the living-room being through a pane of glass in the thatch about a foot square. In addition there were one or two irregular holes which acted as smoke and air outlets, but were probably not built for those purposes, but to provide an entrance and exit for the fowls. These animals nest in baskets hung against the walls of the byre, and generally roost above the entrance-door. The living-room, as stated above, is one with the byre, and one has to walk over and sink into the manure to get to it.

In Bragor a similar class of hovels will be found. One of them is described as follows:—A heap of manure about 6 feet high was piled up to within 2 feet of the narrow and low entrance. Immediately on opening the swing door one was met by the ammoniacal odour from the byre, and was conscious of walking on and sinking into manure. The darkness prevented one seeing anything at first. Three cows occupied about two-thirds of the available space, and the darkness was so profound that one rubbed against them before seeing them. There was only a hole in the roof above the fire and one above the door through which light and air could enter, and unless the door had been open one could not have seen anything. Even with the aid of wax vestas it was impossible to make out clearly the lines of any single object. In a space about half as large as that occupied by the cows, and about 18 inches above it (owing to the surplus manure being piled outside the door), there was the living and sleeping-room. There was only a wooden plank on the earth floor, resting on stones (at least, that is all one could make out in the darkness), and no vestige of a bed or bedding. In this awful den, not fit for a pig, there are housed two wretched old paupers, who are compelled to crouch over the peat fire all night, as there is no bed to retire to.

The inspectors, in conclusion, say:—In suggesting a remedy for the state of matters existing in the Lews, it is our opinion that the Board should call on the local authority to carry out the provisions of the Public Health Acts. It is quite clear that since the passing of the Local Government Act of 1889, this authority have done little to improve the conditions in the island. We are of opinion that the local authority should, in the first instance, take proceedings in each township against those most able to bear the expense of erecting byres for their cattle. In the second place, strict measures should be taken to see that the surroundings of their houses are kept in a comparatively clean condition, and an example should be made of those who continue to deposit filth of all kinds immediately around their doors. In the third place, the local authority should see that the road authority keeps the side channels open and does not allow them to become silted up. If these matters were properly attended to, a beginning would at least be made towards improvement in the sanitary condition of the townships in the Lews.

Mr. Alfred Waterhouse, R.A., in his will left the following legacies to his "present and former pupils, in grateful recognition of their efficient and willing services":—Robert Ardley and George Tunstall Redmayne, 1,000*l.* each; Alfred Spice, 500*l.*; John Willey, 300*l.*; George Steane, Isaac Steane, F. Herbert Mansfield, James Grosse and G. H. Shackle, 200*l.* each; Winter Henry Raffles, the Rev. Ernest Geldart, Alfred Grosse and S. Powell, 150*l.* each; Brystown Binyon, Wilfred Hardcastle, G. R. Tatham, G. H. Gordon, John B. Gridley, Arthur Flower and Victor Flower, 100*l.* each. By the first codicil to his will he bequeathed 1,000*l.* to T. Frederick Pennington, but this is revoked by the second codicil, as Mr. Waterhouse intended to give this sum to his assistant during his lifetime.

"**The Society** of the Twenty-five English Painters" open their first exhibition at the Dowdeswell Galleries, New Bond Street, next week. The twenty-two members at present elected are:—Messrs. D. Y. Cameron, J. Charles, Melton Fisher, Oliver Hall, Whitelaw Hamilton, Lee Hankey, Dudley Hardy, J. L. Henry, J. S. Hill, E. A. Hornel, G. Houston, H. M. Livens, Wm. Llewellyn, Harrington Mann, Bertram Priestman, Cecil Rea, H. Hughes Stanton, Grosvenor Thomas, Terrick Williams, Alfred Withers (hon. secretary), Miss Mary Cameron and Mrs. Isobelle Dods-Withers. The object of the Society is to hold exhibitions of cabinet pictures in London, the provinces and abroad. The second exhibition is to be held in Berlin next January.

NOTES AND COMMENTS.

Anyone who will glance over lists of tenders will learn that some are received from contractors who live at a great distance from the scene of the proposed works. The struggle for work is so intense that contracts for jobs in the South of England will be undertaken by firms in Scotland. It is remarkable that contractors who live far away can compete under more favourable circumstances than those in the vicinity of the operations. This has been discovered in Nottingham. But the circumstances may be applicable in other places. In that town in contracts with the Corporation it is necessary to pay the local rate of wages. The following is the clause introduced in the conditions of contracts:—"That in all future contracts accepted by the Council there shall be a stipulation that none be given to any contractor or subcontractor who does not pay the local standard of wages, and if this stipulation is violated by any such contractor or sub-contractor during the progress of the work he or they shall be debarred from entering into any competition for Corporation work in the future." In Nottingham, however, contractors have to pay in addition for walking-time and to give extra wages for overtime. Contractors who come from other places do not make provision for these extra charges in their tenders, and a contract can be carried out with the approval of the Corporation as long as the standard rates of wages are paid. The consequence is that local firms are handicapped for the advantage of strangers who bring their own men with them. A late example is the contract for the construction of a large reservoir. The local workmen have realised that they suffer under such circumstances. They are now exercising their influence to have a clause inserted in the contract deed which will make it necessary for all contractors not only to pay the standard rates, but to conform to the working rules of the Nottingham trades.

The Mount of Sinai has so many associations with the religion of the Hebrews, it seems strange to find an Egyptian temple at that place. Professor Flinders Petrie on Monday delivered a lecture in Manchester on the "Egyptians in Sinai." He pitched his camp at a height of 2,500 feet above the sea. On the sandstone cliffs they found several Egyptian sculptures. One showed a king of the first Egyptian dynasty (about 4400 B.C.) smiting the chief of Sinai, who had the typical Bedouin features of to-day. These he considered as the oldest known figures of Egyptian art, and it was curious that they should be outside Egypt. The artist had hollowed out the ground and left the figures in relief; even the muscles of the arm were shown. The sculptures on the cliffs ranged down to the eighteenth dynasty, but most of them had been destroyed by English, Arabian and other miners, for Sinai yielded turquoises. Near the ruins of the temple circles of stone were found in which he conjectured that the worshippers of the goddess of the turquoise slept in the hope of having oracular dreams. In the time of the twelfth dynasty the temple was simply a cave and a portico, and between 1500 B.C. and 1300 B.C. many chambers were added. These were only about 6 feet long, and were probably more elaborate shelters or sleeping-places. Ablution tanks were also found. Professor Petrie found altars of incense in the shrine, and one of them actually contained the ashes of burnt incense. In the course of the excavations a statue had been found inscribed with an unknown character, which was conjectured to have preceded Phœnician. It was stated that the Egyptian Exploration Fund, which had hitherto provided the money for the Professor's exploration work in Egypt, was not at present available for that purpose. It had been therefore resolved to develop the Egyptian Research account and to name his exploration (with which students had long been associated) the British School of Archæology in Egypt.

The obstacles to the employment of armoured cement were suggested at a late meeting of the Glasgow Corporation. It is believed that by the adoption of large pipes of that kind a saving of from 15,000*l.* to 16,000*l.* is likely to arise in connection with some sewage works which are about to be undertaken. The city engineer approves of the system, but he declines to accept the responsibility for recommending the adoption of it unless the system was also seen and approved by members of the Corporation. It was therefore proposed that three members, with the city engineer, should visit not only Southampton and Newcastle-on-Tyne where armoured cement pipes are in use, but should also proceed to Brussels. There was a good deal of opposition to the proposal. Finally it was agreed to have a consultation with other committees, when, instead of members of Council, it might be possible to send some of the engineering staff to report upon the pipes. There would be no difficulty in determining the strength of the pipes, and it could be undertaken in Glasgow.

Education committees appear resolved that any architects employed by them at fixed salaries must also undertake the duties of quantity surveyors for any works which are to be carried out. In Wolverhampton all that is paid to the architect by the education committee is 126*l.* per annum—a salary that is insufficient for a professional man. A question arose at a late meeting whether that sum could be supplemented by other commissions. Some of the members were apprehensive that an additional 2½ per cent. might be charged for quantities. It was therefore proposed that the architect should for his 126*l.* supply not only specifications and drawings but bills of quantities as well, for all works that have to be executed.

The Baron d'Erlanger, of Paris, has presented to the Commissioners of His Majesty's Works a series of tapestries which are to be exhibited in the Cartoon Gallery at Hampton Court Palace. The tapestries form part of a series made by Jean Raes at Brussels in the seventeenth century. They are after the famous Raphael cartoons, representing the Acts of the Apostles, which were produced at the instance of Pope Leo X. Seven of the original designs are in the possession of the nation, and may be seen at the South Kensington Museum. They were formerly exhibited at Hampton Court, in the gallery where the tapestries are now placed. The tapestries formed part of the collection of the Duc d'Albe, which was dispersed in 1877. They were then in thirteen pieces, four of the subjects having been cut and made into two panels. These have now been rejoined, and the tapestries thoroughly restored under the Baron's direction and at his expense. There are therefore nine complete panels, of which seven are exhibited in the gallery at Hampton Court, which was expressly designed by Sir C. Wren for the display of the cartoons from which the subjects are taken. The subjects are:—(1) St. Paul preaching at Athens; (2) The Death of Ananias; (3) The Miraculous Draught of Fishes; (4) Christ delivering the Keys of the Church to St. Peter; (5) Sergius Paulus, Roman pro-Consul, converted by the Miracles of St. Paul (Elymas the Sorcerer struck with blindness); (6) St. Peter and St. John at the Beautiful Gate of the Temple; (7) St. Paul and Barnabas at Lystra—the Priests offering Sacrifices to them; (8) The Martyrdom of St. Stephen; (9) The Conversion of St. Paul.

ILLUSTRATIONS.

WALDORF THEATRE, ALDWYCH.

NEW FACTORY AT BRIMSDOWN, MIDDLESEX.

CATHEDRAL SERIES.—WAKEFIELD: ST. MARK'S CHAPEL, WEST END (RECENT ADDITION).

NORWICH UNION FIRE INSURANCE SOCIETY, NORWICH.—NEW OFFICES.

THEOBALDS AND CHESHUNT.

LTHOUGH mere memories of a once famous past, Theobalds and Cheshunt were selected by Mr. Herbert aper for the eighth summer ramble of the members of Upper Norwood Athenæum on Saturday, September 2. fair muster arrived at Waltham Cross Station, not from which is the cross erected in memory of good een Eleanor of Castile, of whom Edward I. wrote to the bot of Clugny, "I loved her tenderly in her lifetime, I not cease to love her now she is dead." It was Queen anor, "the beloved wife of that glorious monarch, who ompanied him to the Holy Land, where her royal sband, being stabbed with a poisoned dagger by a aycen, and the rank wound judged incurable by his ysicians, she, full of love, care and affection, adventured own life to save his, by sucking out the substance of the son, that the wounds being closed and citracised, he ame perfectly healed." The journey was continued to eobald's Grove, where all that is left of the famous royal ace was seen; then by the New River to St. Mary's, eshunt, a church possessing many of the characteristics he ecclesiology of the district. Cheshunt Great House s then seen, with its interesting architectural features, traits, curiosities and Mediæval crypt. Returning to ltham Cross, tea was taken at the ancient hostelry, the r Swans, and at the meeting which followed, Mr. Frank Spiers being in the chair, the following paper was read Mr. Herbert Draper, to whom the hearty and apprecia- thanks of the members and friends were duly accorded, the party returned to town.

Theobalds and Cheshunt.

The district we have visited to-day is so replete with torical interest, and so many notable persons have been ociated with it, that were I to attempt to write a con- ted detailed account of Theobalds and Cheshunt I should aust your patience; but I will only ask you to listen to w notes concerning these pleasant places which I have led from sundry old books and kind friends well uainted with the locality.

To take the Royal Theobalds first, it is curious that we find no satisfactory derivation of its name, although eral variants of it are on record. Anciently the estate called Cullynges, and later Tongge or Tongs (after a prietor who lived in the fourteenth century named lliam de Tongge), Thebaudes, Tibalds and Theobals. It in the early days a royal manor, for it was granted by Crown in 1441 to John Carpenter, Master of St. hony's Hospital in London, and it was anciently held ler a curious tenure, viz. the annual presentation of a of the value of 2*s*., and a barbed arrow valued at 3*d*.

Later the manor was held by the Burbages, and it was n Robert Burbage that Sir William Cecil in 1561 pur- sed Theobalds, which thus made its appearance in lish history. In 1570 Cecil enlarged the estate by the chase of the neighbouring Cheshunt Park. Queen abeth, the great tourist, paid Theobalds many visits. first honoured her Secretary of State in his Hertford- e seat in 1564, and following on this visit Cecil rebuilt mansion at very great cost in order that it might be more thy of his august mistress. Elizabeth revisited Sir liam Cecil in 1571, after the completion of the new sion, and in all she stayed at Theobalds fifteen times, cost, it is said, of 2,000*l*. to 3,000*l*. to the owner on each sion. Sir William Cecil, who retained the favour of capricious mistress, was advanced in dignity to the ony of Burleigh, while Robert Cecil, his younger son successor, became as great a favourite with King es, and in the royal sunshine rapidly blossomed into on of Essendine, Viscount Cranbourne and Earl of sbury. King James rested four days at Theobalds on royal progress to London, when he travelled south to nd the English throne, and here he received the sance of many nobles and gentry. In 1606 James rned to Theobalds accompanied by Christian IV., King Denmark, and on this occasion the royal party so- ned for five days. We read curious accounts of the rtainments provided for the royal guests, and modern ers who inveigh against the extravagances and follies twentieth-century house parties would be horrified to n the royal amusements of the Stuart dynasty. I will e a short extract in illustration of the Court manners of period. It seems that his Kingship of Denmark was esenting King Solomon in a masque, and the lady of Court to whom had fallen the part of Queen of Sheba anced to lay gifts rich and rare at his feet. Unhappily, the Queen of Sheba had "imbibed so copiously that she fell into the lap of the monarch, who, graciously overlooking the contretemps, rose to dance with her; but the royal legs were as unsteady as those of the lady, and His Majesty was borne ignominiously to his chamber. Now did appear Faith, Hope and Charity. Hope did essay to speak, but wine did render her endeavours so feeble that she withdrew. Faith was then all alone, for I am certain she was not joined by good works, and left the Court in a staggering condition. Charity came to the king's feet; she then returned to Hope and Faith, who were both sick in the lower hall."

James was so charmed with Theobalds that he exchanged it with Cecil for the royal manor of Hatfield, which was of greater value, and he expended considerable sums in improving his new acquisition. At this time Theobalds was surrounded by a brick wall ten miles in circumference. In 1607 King James again entertained his kinsman King Christian. The Danish monarch was also entertained at Theobalds in 1614, when for fifteen days feasts, masques, hunts and other amusements succeeded each other.

There is a story told of how King James was nearly drowned in the New River through his horse stumbling one frosty morning and precipitating his royal master head foremost into the river. Sir Richard Young, who rode with him, seized the royal heels and dragged him back to the bank. A local version of this story portrays the learned and ridiculous monarch as seeking for eels in an eel-basket, and, being caught in this ignominious predicament, narrowly escaped drowning. James I. died at Theobalds Palace in 1625, and hardly was the body cold when Sir Edward Zouch, the Knight Marshal, and the heralds issued forth to the gates to proclaim Charles as king. It is told that by an unlucky slip Charles was declared to be the rightful and dubitable—instead of indubitable—heir of James, a sinister omen, as many thought it.

It was to Theobalds that Charles I. retired when he could no longer trust himself in his metropolitan palace, and it was from Theobalds that he marched forth in 1645 to raise the banner of war at Nottingham and never to return.

In 1649 commissioners were appointed to survey the Crown lands, and in the following year they reported that Theobalds was an excellent building, in very good repair, and worth 200*l*. a year without the park. They recommended its maintenance, but reported that, if demolished, the materials were worth 8,275*l*. 11*s*. There were at the time of the survey 2,508 acres, which, with the six lodges, were valued at 1,545*l*. 15*s*. 4*d*.; the deer were computed at 1,000*l*. and the rabbits at 15*l*., while the timber was estimated to be worth 7,259*l*. 13*s*. 2*d*., exclusive of some trees already felled, and 15,608 growing ones, marked for the use of the navy, which Oliver was already taking great pains to foster. Unfortunately Theobalds was doomed to destruction, and the great palace was demolished and the materials sold to pay the victorious troops of the Commonwealth. A few remnants survived for another century, but to-day it is difficult to gain from the site any idea of the great palace. Through the kindness of the residents we have been privileged to visit the charming old houses which stand on the site of Theobalds, and we have visited the gardens, walks and lakes, which have no doubt remained much as they were in Stuart days. In Grove House (W. W. Powell, Esq.) there is a fine staircase and some panels, which may well have formed part of the palace; and at Old Palace House (F. W. Lane, Esq.) are some very interesting remains, notably a Tudor window, some portion of a stone and brick wall of the royal palace, a long brick wall with very curious but unexplained niches at intervals in it, and an ancient banqueting table, at which we may well believe the Stuart monarchs have feasted.

These grounds, as well as the adjacent "Cedars," are well stocked with magnificent trees which assuredly adorned the royal gardens. At the Restoration the manor was granted to General Monk, Duke of Albemarle, by Charles II., who in this instance at least proved his gratitude. His successor, Christopher, the second Duke of Albemarle, died, leaving a widow, who married Ralph, Earl, and afterwards Duke of Montagu. John, the second Duke of Montagu, sold the manor to Letitia, daughter of Sir Robert Thornhill, and on his death it passed to Sarah, wife of Richard Cromwell, who shared the property with Eleanor Hinde, both granddaughters of Sir Robert Thornhill. Sarah's daughters all died unmarried, after having inherited Eleanor's portion, and these maiden ladies bequeathed the manor to their cousin Oliver Cromwell, of whom I will speak again.

William III. granted the palace and park, which had become separated from the manor, to George Bentinck, Duke of Portland. About the middle of the eighteenth century the estates were purchased by one of the Prescotts, who also became possessed of the manorial rights.

I should like to give you some idea of what Theobalds Palace was like in its palmy days. Prior to 1564 it was described as a moated grange, but after the rebuilding it arose a very magnificent phœnix of architecture. The mansion was built of red brick, with the quoins, jambs and cornices of stone; the cornices of the ground floor were Doric, and of the upper floors of the Ionic and Corinthian orders. It was battlemented, and consisted of two principal quadrangles, a fountain court which measured 86 feet square, with cloisters about it, and a black-and-white marble fountain in the centre; the presence chambers looked out upon the great garden, whence an avenue of trees one mile long led into the park. The gallery, which was 123 feet in length, "was wainscoated with oak and paintings over the same of divers cities, rarely painted and set forth with a frett seelinge, with divers pendants, roses and fleur-de-lys, painted and gilded with gold, also divers large stagges' heads sett round the same and fastened to the sayd roome, which are an excellent ornament to the same." The windows of this gallery opened upon the park and looked northwards towards Cheshunt. There was a leaded walk with an arch over it, which could "easily be discerned by passengers and travellers on the highway from London to Ware to their delight."

Cheshunt Great House.

St. Mary, Cheshunt.

We read also of "fower high fair and large towers, covered with blue slate with a lyon and vaines on the top of each, and one faire and large turrett in the fashion of a lanthorne made with divers pinnacles at each corner, wherein hangeth twelve bells for chiminge, and a clocke with chimes of sundrie worke."

To the south stood extensive cloisters built upon stone pillars with seven arches, rails and balusters, painted with the kings and queens of England, and the pedigree of Lord Burleigh and other ancient families. This cloister was one of the last surviving remnants of the great mansion, for it was standing as late as 1765.

Lord Burghley, and after him King James, expended great care and much money on the gardens. Old William Harrison, in his Survey of England in the reign of Elizabeth, mentions them as one of the four principal gardens in England, the others being Hampton Court, Nonsuch and Cobham. The gardens, which were of great extent, contained a great variety of trees and plants, statues of classical deities, fountains, mazes and labyrinths, columns and pyramids of wood, summer-houses, notably one adorned with twelve Roman emperors sculptured in white marble, lead cisterns used for preserving fish and convenient for bathing, also a tennis court, aviaries, pheasantries and a menagerie, for King James had a pretty taste in wild beasts. There were a camel-house, stables, kennels, falconries, and in a word all the appurtenances of a great nobleman's house in those splendid times, in all composing what contemp rary writers try hard to depict as a terrestrial paradise.

I have noted a few figures to give some notion of th scale of housekeeping at Theobalds in Cecil's day; but or must bear in mind the very great difference in the pu chasing power of money under Elizabeth and at the prese time. The housekeeping expenses cost 80*l.* a week, th equivalent of a very large sum at the present day. Th stables cost 1,000 marks, or about 666*l.* a year; 10*l.* week were paid as wages to the poor who worked in th garden (an interesting Elizabethan instance of what we a calling to-day a social experiment); 20*s.* a week were pa to the Vicar of Cheshunt to be distributed amongst the poo It is said that in Lord Burleigh's train were twenty gentl men each worth 1,000*l.* a year.

"His hall was ever well furnished with meat, for h stewards kept a standing table for gentlemen, besides t other long tables many times twice set; one for the clerk the kitchen, the other for yeomen, and whether he we absent or present, all men, both retainers and others, r sorted continually to meat and meal at their pleasure; h also delighted in making gardens, fountains and walk where he might walk two miles in the walk before h came to their ends; his greatest delight was riding in h gardens and walks on his little mule, looking on at shooter or bowlers."—Peck's *Desiderata Curiosa.*

It should be explained that this modern mansion Theobalds stands on a site north and west of the old palac It was only erected in the last century by Sir Georg Prescott. In general plan it somewhat resembles S James's Palace. It was enlarged by successive owner and considerably so by the late Sir Henry Meux. We hav fortunately been able to renew our old friendship wit Temple Bar, the environs of which are wonderfully altere like an ancient city horse after a lifetime spent among th streets and houses turned out to grass, spending its la days peaceably amidst the trees and green fields.

Cheshunt, otherwise known as Cheston, Chesthunt Cestre-hunt, the name which appears in Domesday Book, derived from castrum, a camp, and possibly "hunt" chase. Its position, thirteen miles from London, the ant quaries say, justifies our looking here for a Roman statio half-way on the road to the Roman settlement of "A Fines," and the discovery of a Roman urn embedded in th front of an inn in Cheshunt Street and of many Roma coins and other relics support this view.

A line through this parish formerly marked the boundar of the East Saxons and the Mercians. There prevailed a interesting custom by which all copyhold lands and ten ments situated below or beneath, that is on the east side this boundary known as the bank line, descended to th youngest son or brother. This Saxon custom is terme Borough English. On the western side, known as abov the bank, the succession was to the eldest son or brothe if copyhold lands or tenements were not bequeathed by wi or disposed of in the lifetime of the copyholder.

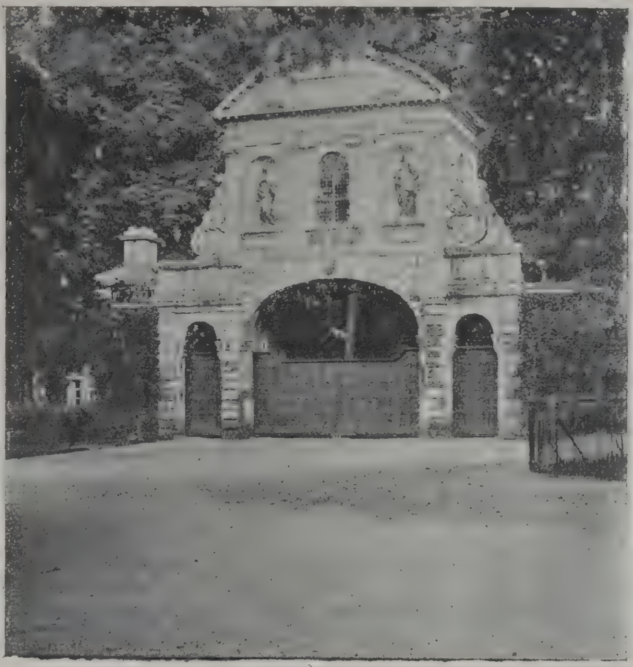
Cheshunt was the principal manor in the county of th wealthy Earls of Brittany and Richmond, and it is recorde in Domesday Book that it was held by Alan, Earl ttany, the son of Earl Eudo and nephew of the Con- eror. This Alan commanded the rear-guard of the Norman ıy at the Battle of Hastings. He was known as Alan fus, while his half-brother, who succeeded to the title, s termed Alan Niger.

To Conan, Earl of Richmond, succeeded his heiress ıstance, who was wedded to Geoffrey Plantagenet, the rth son of Henry II., who was slain at the age of twenty- ht in a tournament at Paris. His widow remarried in prompt manner of those days Ranulph, Earl of Chester, m whom she was divorced, and as her third husband, y, Viscount de Thouars. As she left daughters only, the nor reverted to the Crown, and was granted by Henry III. he Bishop of Carlisle. In 1241 it was granted to Peter Savoy, the uncle of Queen Eleanor, who left the manor his niece, the queen. She conferred it on John de eux, the son of Alice de Thouars, daughter of the former der. John de Dreux had become Earl of Richmond and ke of Brittany in 1342. His grandson, John de Dreux, igned his estates to the king, who bestowed them on his John of Gaunt. Escheated to the Crown in 1383, the nor was granted by Henry IV. to Ralph de Nevill, Earl Westmoreland, and in 1425 it again reverted to the wn.

Henry VIII., to take a leap over several reigns, granted eshunt to his illegitimate son, Henry Fitzroy, Duke of hmond and Somerset. Later it fell into the hands of John Gates, of Sir John Huddlestone, vice-chamberlain King Philip and Queen Mary, who conveyed it to John k, of Broxbourne. It was sold by the third Lord nson to George Prescott, whose descendants are still ds of the manor.

The church of St. Mary, Cheshunt, a handsome Per- dicular edifice, was built in 1418 by the rector, Nicholas on, who seems to have been a person of some im- tance, since he held also the offices of clerk of the Pipe ice and under-treasurer, afterwards Baron of the Ex- quer. His epitaph records that he "acted with justice rywhere; giving peace to the poor, he allayed the anger the rich. His liberal hand relieved those whom dire erty oppressed." The present church is not the first ice to occupy the site. We learn that the pious Queen ıstance, mother of Prince Arthur, at her expense ointed two priests to the parish of Cheshunt, one to y for the faithful living, the other for the faithful de- ted; but the first mention of a church in Cheshunt is to found in a document dated 1280, and we know the names of the vicar and the rector in the year 1332. The bowl of the font survives from the church which stood here before the present building.

Waltham Cross.



Temple Bar.

In the churchyard is a plain solid tombstone which covers the remains of several descendants of the Cromwells, including Oliver Cromwell, the last male descendant in direct succession from the Lord Protector.

Some mention must be made of old Cheshunt House or Cheshunt Great House, but there is no time to relate, much less to discuss, the veracity of the many traditions associated with the house. This was not the manor-house of the principal manor, which has altogether disappeared, but it represents the ancient manor of St. Andrews-le-Mote, or Moteland. The date of this structure is uncertain. The crypt, with the massive columns and heavy groining, is of considerable age, and there is good reason to believe that it served as a chapel. We may trace in it the position of the altar and a curious stone confessional, also the doors of subterranean passages now bricked up, which, local rumour insists, ran as far as the nunnery at Turnford, and even to Waltham Abbey. Below the crypt again are cellars or dungeons, now sealed up. There is reason to think that the hall and other parts of the mansion are fifteenth century; but its date is usually given as the reign of Henry VIII., and it is commonly stated, though without much evidence, that it was built by Cardinal Wolsey. The building was formerly quadrangular and surrounded by a moat, and the present building is but a remnant of the original mansion, of which the frontage was on the west, towards Goff's Oak. The great hall measures 40 feet in length by 23 feet in width, and is 36 feet in height. Formerly it was furnished with a daïs, a buttery hatch and a minstrels' gallery, which have all disappeared.

Of the portraits and curiosities still stored in Cheshunt Great House there is little doubt that many were acquired at the demolition of the palace of Theobalds. The curious old organ is said to have been made by a monk of the abbey at Waltham. We are shown many royal portraits, a portrait and the chair of the great cardinal, and a rocking-horse ridden by Charles I. when an infant.

The manor is said to have belonged to the Norman family of La Motte, hence its name Le Mote. It was granted to Cardinal Wolsey by King Henry VIII., and it was owned for the nine years before his disgrace by the proud prelate, who is said to have resided there sometimes and exercised sundry functions which appertained to the lord of the manor. We all dearly love a legend. I cannot refrain from alluding to the bloodstain on the floor, the usual bloodstain which nothing will obliterate. The tradition is that an unfortunate lady became the victim of the Cardinal's jealousy, and that he despatched her. Another gruesome story relates to two skeletons of women found in 1801 bricked up in the crypt, the one holding a lantern and the other a pitcher. I need not add that the house is haunted. At the disgrace of the Cardinal the manor was forfeited to the Crown and fell into the hands of Robert Dacres, a Privy Councillor, and later of the Shaws, and of the Mayos, the present owners. Sir John Shaw, who purchased the house, was created a baronet at the Restoration for monetary services rendered to the exiled monarch. In 1750 the building was modernised by John Shaw and cased in bricks for its better preservation, but the original brickwork may be seen on the north side; and in 1801 the greater part of the mansion was pulled down by the Rev. Chas. Mayo, when it is said that as many as thirty-three rooms disappeared.

Richard Cromwell, son of Oliver Cromwell, and himself Protector of England, retired to Cheshunt after the Restoration, and we have to-day passed the site of Pengelly House, where he spent a great many years. We saw the yew trees which stood in his garden, but the house itself was altogether destroyed by fire in 1888. Richard lived here very quietly under the name of Clarke, though towards the end of his long life he resumed his own surname. He died in 1712 at the age of eighty-six.

The quondam Protector seems to have been a cheery, peaceable, unambitious old man addicted to field-sports and good cheer. There is a quaint story told of him, that he was so fond of fish that no one else in the household could ever obtain any.

There are descendants of the Cromwells still living in this neighbourhood. At Cheshunt Park, now the residence of Mr. Debenham, there lived a latter-day Oliver Cromwell, a Chancery lawyer, who practised in Essex Street, Strand. This last direct male descendant of the great Puritan, whose great great grandson he was, died in 1821, and was buried in Cheshunt graveyard. He was descended from Oliver's capable son Henry, the Governor of Ireland. He owned a good deal of property in this neighbourhood, and it is a curious fact that this gentleman, the descendant of the great Cromwell, should have come into possession of the manor of Theobalds, once in the occupation of the Stuart kings, and actually granted to General Monk for his services in restoring Charles II. to the throne.

This district preserves pleasant memories of old Isaac Watts, the hymn-writer and logician. In 1712, when he retired from his ministry in Mark Lane, he was invited by his friend Sir Thomas Abney to recruit his health at Theobalds Grove, and there Dr. Watts sojourned for thirty-six years. His last ministry was at Crossbrook Chapel, which we passed this afternoon. This is not the chapel of Watts's day but a later one, on the wall of which the old divine is commemorated by the letters I. W. It was here that he fainted while preaching his last sermon. He died in 1748 at the age of seventy-four. The laurel walk at Albury Ride, locally known as the Lovers' Walk, was a favourite promenade with the divine, and one can imagine him pacing this long walk and putting together the lines which have become so familiar. Another favourite walk is said to have been about the New River, and from the rising ground where stands the red-brick house once occupied by Charles Kean, the actor, Watts used to survey the pleasant landscape, and this pleasing prospect, according to a local antiquary, inspired the hymns "Sweet fields beyond the swelling flood" and "There is a land of pure delight." "The Busy Bee" is claimed as a composition written in the gardens of Old Palace House. It is interesting that Dr. Watts was a frequent visitor of Richard Cromwell.

Another notable Isaac who haunted these scenes was good old Isaac Walton, the gentle angler. You will remember that in the first chapter of "The Compleat Angler," in which Piscator, Venator and Auceps meet and in friendly rivalry uphold the supremacy of their crafts, the falconer is making his way to Theobalds House, where a friend was mewing a hawk for him. Pickering's edition of "The Compleat Angler" contained a vignette of Theobalds Palace.

Other worthies who are associated with Cheshunt are Lord Howard of Effingham, the Lord High Admiral who commanded the English fleet which defeated the Spanish Armada—he owned a house at Cheshunt Street called Effingham Place, which he gave to one of his captains named Bellamy; Lord Grey de Wilton, a prominent figure in Queen Elizabeth's reign; Lord Somers; William Herbert, the antiquary; James Ward, R.A., the animal painter; Anthony Trollope, post office surveyor and novelist, who lived at Waltham House; nor should we forget another worthy, John Gilpin, the worthy citizen, who passed this hostelry at full speed in his famous ride to Ware, making sport for all beholders.

There was anciently a religious house at Turnf
founded prior to 1183. Benedictine nuns were establis
here; but they were suppressed by Henry VIII.,
granted the estate to Anthony Denny, a groom of the P
Council. There is now no trace left of the convent.

This inn in which we sit, the Four Swans, is interes
inasmuch as tradition makes this the resting-place of
body of Queen Eleanor, the wife of King Edward I., on
last night of the long journey from Hardby in Notts, wh
she died, to Westminster, where she was buried. The
consolate widower erected crosses to her memory where
the funeral cortège rested, viz. Lincoln, Grantham, Stamf
Geddington, Hardingstone, Stony Stratford, Woburn, D
stable, St. Albans, Waltham, Westcheap and Charing Cr
Of these twelve only three survive, one at Geddington n
Kettering, one at Hardingstone, usually called Quee
Cross, Northampton, and the third and finest is Walth
Cross, outside this inn. It is right to mention that
Falcon inn at the opposite corner disputes with the F
Swans the honour of having sheltered the royal corpse,
it is argued with much probability that the body wo
have been deposited for the night in the abbey of Walth
hard by. The Falcon was formerly contiguous to
monument, and the monument itself was made to serve
a signpost with a direction hand sticking out from it.
picturesque signboard bears the date 1260, and it
ill befit us as guests to dispute its authenticity. The grea
part of the inn is obviously of more recent date, but so
of the interior is of very respectable antiquity. Salmon
of opinion that this building was actually the origi
manor-house of the honour of Richmond, with which w
the manor of Cheshunt.

In concluding these rambling notes I must pay
acknowledgments to Lysons's "Environs of London," Rob
Clutterbuck's "History of Hertfordshire," Mr. John Edw
Cussan's "Hundred of Hertford" in his county Histo
and Mr. Edward Walford's "Greater London," and pro
my gratitude to local antiquaries for their kind assistanc

The illustrations are from photographs by Mr. F.
Case and Mr. F. W. Groves.

BY-LAWS REFORM.

THE following evidence was given before the commit
on the Public Health Acts (Amendment) Bill.

Mr. Alexander Rose Stenning was examined as follows

Chairman (*Lord Allerton*).

You live at East Grinstead, in Sussex?—Yes.

You are a Justice of the Peace for Sussex?—Yes.

You are an architect and surveyor and a member of
Council of the Surveyors' Institution?—Yes. My office
121 Cannon Street. I am also a Fellow of the Ro
Institute of British Architects.

You have had great experience, therefore, in connecti
with building and building by-laws?—Yes.

You have specially endeavoured to ascertain the tr
feeling in reference to building by-laws in rural and urb
districts?—Yes, I have had practice in both.

What is the result which you have arrived at in rega
to your inquiries. Is there any harm done, do you thin
—Yes, harm is done in preventing building very often
consequence of the stringency of the existing by-laws.

Is that due to the increased cost?—Yes, I think so. T
difficulty is that urban by-laws are so applied to ru
districts. The East Grinstead district is a large one, a
there they have the urban by-laws applying to entir
rural districts, and great hardships are, no doubt, thro
upon the people in consequence of those very stringe
by-laws. In the same way in less populous districts su
as Limpsfield, where I have a great deal to do with o
large estate, the by-laws are sometimes very harsh a
difficult to deal with. That, again, embraces rural distric
At Chislehurst too.

Is that a case where the urban by-laws are applied t
large district, including what you call the rural district?
Yes, they have only one set of by-laws.

Has the attention of the local authority ever been call
to that?—I think so. I have often discussed it with the
both at East Grinstead and Godstone.

They adhere to the view that it is better?—They do n
say that. They say they are obliged to adopt these by-law
That is the only way they can do anything. They mu
take the whole or none. In both those cases the by-la
were granted before the rural by-laws of 1904, and th
have not changed them.

But it is open to them to approach the Local Government Board and ask to have them modified ?—Yes, then ame in the difficulty as to the arrangements of the districts -the rural district and the urban district—what district ou would elect to have which should have urban powers, nd what district you would elect to have rural powers.

There is probably no district where you could draw an rbitrary line which would not include a little of both ?—I o not think you could. After thinking it over a great deal, read a paper at the Institution of Surveyors, of which I ave brought two copies. I tried to put my views there as ell as I could, looking upon it as a public man and also as professional man.

Will you try and make clear to us what are the difficulties the case to which you have referred. You say that in is district urban by-laws are applied to districts which are, fact, rural districts ?—Yes.

You say the difficulty is in drawing a line, even supposing that they were willing to adopt the two sets of byws. What is the difficulty—making them conform with ny parish boundaries ?—Yes, doing that, and from time to me districts grow up. The urban district extends and the ural districts grow up to the urban, and therefore there ould be constant changes.

But what is the way of meeting that difficulty, because at would go on everywhere ?—I agree.

Would you be in favour of a discretionary power being iven to the local authority ?—No, I think it can be done by ne code of by-laws. The three principal things, which I think ou will find I mentioned in my paper, are stability, sanitaon and prevention of spread of fire. Those apply everyhere. Those are three common objects, and having got at I think all districts ought to have exactly the same. hen, if you apply exemptions in the same way as we have London in the metropolitan area you exempt buildings here they are a certain distance away from adjoining roperties. In the metropolitan district, for instance, if I m 30 feet away from my neighbour and 8 feet from a treet, I can put up a wooden building. It is a thing not ery generally known.

Lord Zouche.

Under the present Act ?—Yes, under the London uilding Act, 1894, Section 201 and Sections 10 and 11. nder the Act of 1855 I built a house, but, under the uilding Act of 1894, which I had a good deal to do with committee, the same exemptions were continued.

Lord Stanley of Alderley.

But you cannot put up an iron building without a yearly cense ?—Yes, if you are 30 feet away from the boundary nd 8 feet away from the street.

The School Board always had to pay for the yearly cense for putting up iron buildings ?—If you read that ection you will see that it is provided, and you can do hat you like. I know it, because I erected a wooden ouse for a Scotchman. He said, "Why should not we uild a wooden house ?" I said, "I see no reason why we hould not." This was done at Grove Park, in the metroolitan area. Of course you have to have a large space. I uilt that house over twenty years ago, and it is standing -day and is a perfectly good house.

Lord Zouche.

Those that are built must have 30 feet at least all round em ?—It must be a certain size in one occupation, and istant at the least 8 feet from the nearest street, and at ast 30 feet from the nearest building and land of any djoining owner.

Chairman.

It must not abut on the street ?—No, only 8 feet set back. hat is very little. It means if you are building a house, r instance, in a park of 100 acres, at the present time you annot put that building up without going to the district uncil if they have the urban by-laws. It is a new building, nd according to the by-laws that is not exempt. If you uild a house in an acre of land which is quite isolated you annot do it without going to the district council. It really uts the whole of the building, as I think Mr. Justice rantham once said, entirely under the control of the istrict council. A landowner cannot do what he likes on is own property.

That is the object of all building by-laws ?—To prevent man doing what he likes on his own property ?

Lord Stanley of Alderley.

To give the power to the district council ?—That is the fect of it—that you cannot do what you like with your own, but really I do not think any good comes from it in that way.

Chairman.

I do not quite follow what is in your mind with regard to the application of the power which you say exists within the metropolitan area giving a similar power to rural districts ?—If I may put it in this way I have prepared a plan to indicate what is intended by the clause. It is 15 feet each side. I have shown a road 30 feet wide. Very few roads, especially in rural districts, are 30 feet wide. You could, according to the Bill, construct a pair of cottages leaving 15 feet. Those buildings would be 30 feet away, so there would be no fear of the spread of fire.

Lord Stanley of Alderley.

Those are one-storey buildings ?—Two-storey buildings.

Then they would have to have more than 15 feet ?—I do not think the Bill goes quite far enough, and I make it two storeys. If you have 30 feet between buildings you prevent spread of fire. That is all you want.

You have less, I see, according to the Bill ?—You can have 15 feet up to the eaves and part of a storey in the roofs—15 feet or the equivalent.

This plan shows less protection to the public than the Bill shows ?—Yes, it does really.

What if this building were more than 15 feet high ?—Then you would want to be further back from the road.

The Bill gives greater protection ?—Yes. On this plan I have shown a 30-feet road and 15 feet to the eaves. It gives a very good area all round the house if you have 15 by 50 feet.

Chairman.

What is the advantage there which would be gained by the person building ?—He could do what he liked.

Would it result in less cost to him ?—I think it would.

If not, what would be the advantage of putting up such dwellings ? We are told that they are hindered by reason of the cost, and that the cost is increased by reason of the by-laws ?—I think in many cases it does away with heavy cartage, especially in rural districts, timber being much lighter to cart than stone and brick and much easier to get at. One finds all over the country wooden cottages standing for hundreds of years in a good state of preservation to-day, and in my opinion they made much warmer and better houses than brick.

Lord Stanley of Alderley.

Would you build them in the American style, clinker built outside and lined with planks inside ?—If you have weather-boards overlapping one another, as you should do, and properly prepared and plastered inside.

An inner lining of wood ?—Plaster it on the inside of the framing. On the outside boarding, and inside lath and plaster. Therefore you get two skins and get an air space which, in my opinion, is valuable both as regards heat and cold.

Chairman.

And it would be a non-conductor ?—Yes.

Are those two cottages of 15 feet frontage each ?—Yes, 24 feet deep and a back addition of 10 feet—a common type of cottage. This being a rural district, and urban by-laws being applicable, where would you be if a man wanted to build on that boundary ? He would have at once to comply with the urban by-laws and construct his house of brick; he would buy that land knowing he was under that disability. *This* land has given up—(*Explaining the plan*).

Lord Stanley of Alderley.

Would you allow a man to utilise his land on the assumption that the next man would again leave 15 feet vacant ?—Yes, certainly.

Because you ought really, in order to make him safe in the future, to leave 30 feet ?—Yes.

He has got leave to build his house on the supposition that the house will be 30 feet from the next building, but if he does not own the land beyond he ought to leave 30 feet ?—Only 15 feet.

But the obligation in the Bill is that he shall leave 30 feet between him and the next house ?—Yes, that would have to be done here. A practical man would want to give it a little consideration, but with one code of by-laws applying to all districts this man would buy his land and would say, "I cannot build a wooden house unless I give up 15 feet of land."

Chairman.

If he followed the same plan as this he could do it ?—He could do it, and you could get good open space and ventilation all round the building by this plan.

If you did save anything in the cost of building there is the cost of additional land ?—Yes.

Lord Stanley of Alderley.

What is the total depth you show—the only compulsory depth ?—Fifty feet by 30, that is 1,500 feet.

About 16 feet by 70 is the usual size for streets in London ?—You can meet all requirements, 60 feet deep, including all the buildings, by 15 feet.

They are usually about 17 feet ?—Plans come before me giving a good deal less. Again, here, supposing you had to build a pair of cottages on an estate where you really wanted them, if these exemptions were in force you could erect those cottages with anything you liked, and not obliged to erect them in brick. If you put them up now, though they may be quite isolated and there is no fear of fire at all, you have still to build them in brick. That is where the hardship comes in.

Has thatch become illegal ?—Thatch has become illegal. I think Mr. Albert Pell brought that before Mr. Long when we had that deputation to him. He said all the picturesque cottages that used to exist about the country are gradually being swept away, and in one case where he had erected cottages on an estate with a thatched roof he had to take it off and put on slates, before he could get his certificate of occupation. Sometimes you are very hardly hit indeed. I am afraid I am an offender about the question of depositing plans in an addition to a house. My house was a detached house and I put a small addition on to it. They said, "It is a new building and you must comply with the by-laws." I said, "It is not a new building." They wanted me to deposit a block plan 44 feet to the inch showing my neighbours 600 or 700 yards away. It is absurd in a country place to ask that to be done.

Chairman.

You are in the position of a passive resister ?—I am at the present time; and I have a case on for a client of mine. I say I will conform to the law in every way, but they must not ask me to do anything which is against the law.

You have considered the effect of the proposed exemption provided in clause 2 of the Bill, and you think that cottages and other houses could be erected which would offer many advantages which, in the case of houses under existing by-laws, could not afford to be provided ?—I do think so.

You think small dwellings could be provided at a less cost than now ?—I do. I speak as a professional on that point. I have had to consider it.

Have you considered the possible effect of clause 5, which is as to the representation of the ratepayers ?—I think that would work reasonably. I do not see any objection to it. It would give a number of ratepayers an opportunity of bringing any objections they had to the by-laws before the Local Government Board as a court of appeal. I think there ought to be a court of appeal on all matters, and I should like to emphasise that very much.

Lord Stanley of Alderley.

It is not quite a court of appeal ?—A tribunal of appeal.

It is new legislation, because it is not an appeal in individual cases; you are proposing to challenge any one or more of the by-laws by five people ?—Yes.

It need not be arising out of a *lis pendens*, but might simply be on theories ?—A man would hardly ride his hobby so hard as that.

It is not an appeal. It is a challenge ?—It is a challenge.

Lord Digby.

What court do you say there should be ?—That is a matter I have not made up my own mind about. I have sometimes thought it ought to be the petty sessions. I do not know how far the county council could be brought in. I have heard some members say they would object to have additional labours put upon their shoulders, and they have quite enough to do; but in my opinion the county council would be the proper authority. You would go to the county town. The county council has a competent surveyor, a man of experience, of course, to advise them, and a competent clerk, so that you would get then a proper opinion, or a reasonable opinion, given.

Lord Stanley of Alderley.

The county council is not yet what I might call a by-law authority neither for building by-laws nor sanitary by-laws ?—No.

It has not a standing committee dealing with buildings ?—That is true.

In a municipal corporation or a county borough th have their borough surveyor and officials and a commit familiar with this question, but a county council has yet had the general administration to educate them working a thing of that sort ?—But on a question appeal you will have a particular point which you appealing against, and on which you want common ser to come in, and four or five members of a county coun coming from another district would be quite able to d with it.

No doubt they would have some practical knowledge ? Yes, and have the assistance behind them of their o county surveyor, to whom they might go on a question construction, for instance.

If they had to do that, they would have to learn how do the work ?—Yes.

Chairman.

But a considerable town would probably object to havi the county council brought in ?—Many of these tow have their own authorities, and they could be exempt towns of a certain population. They do in many cas have their own by-laws and their own Building Acts.

Lord Stanley of Alderley.

A town or seaside resort like Southport, for instanc which wanted to attract people would not like, if they h a high standard, that a jerry-builder could go to the coun and get them to relax the by-laws ?—I do not think that likely to occur. These are matters of appeal. The effe of having the tribunal of appeal in London has been that has worked satisfactorily.

You have a good body in London, I agree.—Althoug they had a great deal of work to do when first started the have very little to do now, because they have establishe that certain things are to be done and people know wh their decisions practically are. I do not think the would be many cases of appeal. I think the fact th there is an opportunity of appeal would deter people fro fighting.

Chairman.

It is the fact as regards London that the Council, which we have heard, have little work to do ?—Yes, I kno them very well, and have been before them. Our Institu tion sends one of its members to that body, and he wa telling me that they have nearly got to that poin There is a little question on now because of the Bi which is being considered in the other House as to th alteration of that tribunal, and I think cases do not go them pending this legislation. But that it has given satis faction by its decisions I know personally.

Lord Stanley of Alderley.

Besides this tribunal, has not the architect of th London County Council large powers ?—Very large.

And there are the district surveyors, who are profe sional men ?—Yes.

You have different conditions in London. You hav the trained surveyors of the district, and the architect of th County Council and the Tribunal. You could not have any thing like that for the country ?—No, and I do not think th same questions would arise. I can quite fancy in my ow mind that a code of building by-laws might be considere which would have very few questions which ought to com to a question of appeal. I would have an appeal in th case of the width of the roads, which has been mentione I think there some discretion ought to be allowed. A bac street does not want to be of the same width as a mai thoroughfare, or one likely to become a main thoroughfar On that I think an appeal to the county council would be most excellent matter to go to them for decision. I sugges in my paper that some streets may be 20 or 24 feet wid providing there was a building frontage line and the house did not abut on the fence. You would have the air-spac by the houses being set back.

Also limiting the height of the houses, say to a 45 degree rule ?—I should never have less than 40 fee between the cottages on each side of the road. Now yo have a 40-feet road, and you can build right up to tha frontage. It seems to me—and I have advised severa landowners about it—that to make this 40 or 36-feet roa where you are only going to have cottages on one side an no cottages on the other because of the formation of th land is unreasonable; it is a question of looking at th expense.

It is cheaper for the local authority to keep up narrower road if the rest is forecourt ?—Yes, you get th air space and everything provided for, and do not have th tial cost of making it nor the cost of maintenance afterrds, and I think that is an item which is very often erlooked.

Chairman.

You appear to be in favour of a universal code of byrs ?—Yes. I do not see any particular distinctions in tricts. You want to provide for stability. That applies erywhere, whether you have a brick or a stone wall, and re are certain standard thicknesses.

Does that mean you would not have more stringent byvs in the case of an urban district than in the case of a al district ?—No, I do not think it is necessary.

Lord Stanley of Alderley.

You take the density of the houses on the ground, and the character of the administration of the local hority ?—Yes. Then you want to prevent the spread fire.

You would allow Devonshire House in London to be ilt of wood because it is isolated, but you would not ow in a village two cottages to be so ?—Yes.

It is the exact position of one house which makes the ference ?—That would be so. It is the congregation of buildings.

Chairman.

You point out that the Local Government Board has no wer to recall its by-laws at present. Would you give it wer to recall them ?—They cannot do it.

You think it desirable that they should have the power recall them ?—Yes, that is my point.

Lord Hylton.

You want to replace them by more modern suitable -laws ?—Yes. Take both Limpsfield in the Godstone ion and East Grinstead—two authorities which I have st to do with—one I reside in, and in the other I am veloping a very large estate of Mr. Leveson-Gower. I nk there they ought to have some by-laws. They told they could not get the Local Government Board to sent to any alteration of the urban by-laws.

The unfortunate occupier and owner falls to the ground tween the two ?—Yes, it is very difficult to get authorities see it.

Lord Stanley of Alderley.

Do you think if the Local Government Board were of inion on reports made to it that by-laws were unsuitable a place, you could get over the difficulty of a purely ministrative authority overriding a local authority by ating it as a provisional order, letting it lie on the table of rliament, so that Parliament should really be the thority ?—It might work in that way.

Then you could not say to a representative authority u are overridden by a department, but it would be by the use of Commons ?—Yes. I think machinery of that sort rhaps might work.

Lord Zouche.

You mentioned in your paper, I think, that it should be npulsory on every authority to adopt the by-laws which ould be uniform throughout the country. I suppose you an there should be a code of laws which would in those iations suit different conditions of things. At the first ish that would rather look like the same kind of by-laws an urban and rural district ?—Yes, I do say so.

Chairman.

You would try to get this elastic power by exemptions ? Yes, make your by-laws complete. There are three ngs : stability, prevention of fire and sanitation.

Lord Stanley of Alderley.

Uniformity of conditions, no matter what is the area ?— s.

Lord Zouche.

Providing certain exemptions ?—Yes, as regards stability, instance, and spread of fire and sanitation, they would universal throughout. I will combine the rural by-laws ich, I think, generally are reasonable, and to which I see objection.

But those exemptions would be stated in the code ?— actly as in the London Building Act. Then all buildings ertain distance from neighbours could be built as a man ed. I think you can trust people generally to build subntially. People are not foolish enough to lay out their ney unreasonably.

As to cost of buildings erected under these exemptions wood, the first cost would be less than in brick and ne ?—Yes.

Would you, or not, require large outlay in repairs as time went on, so that it would ultimately cost more than if you started with a more solid material ?—That is a point to be considered, but I think if you can build a cottage which will produce you 6 or 7 per cent. or 7 or 8 per cent. for your money (which is possible if you work with cheaper materials), you have, to a certain extent, or ought to have, some money put on one side to meet those extra repairs. Then, I think, the tendency of to-day is to go faster than three or four hundred years ago, and building to-day is not so good as it used to be. What we have to do in rural districts is to erect buildings for the labourers to live in who can afford to pay a reasonable rent. Then the additional cost of repairs would be spread over a greater number of years.

My point was that the yearly rent would come to an end after a time. It might be a profitable thing at first, but if your building is not going to last the transaction is rather a finite one ?—Yes, if that were the case.

Chairman.

And unless he is going to pay a rent which is not only to provide a return on the shorter life, but even possibly meet a greater amount of repairs, then a rent has to be charged even higher than in the other case, and, therefore, as regards the expenditure, you do not provide a dwelling at less cost ?—I think that would work itself out. I think it would level up. I was trying to think how you could apportion it by way of a rental and what return you could get upon it. If you put it that you could build a brick cottage for 200*l*., and I think it would be possible to erect wooden ones for 150*l*., you save 25 per cent. at once of the cost.

You do not save anything on the land ?—No, not on the land.

You spend a little more on the land ?—But then in the country where you can only get 10*l*., 15*l*. or 20*l*. an acre for your land, it is not worth considering whether you have ten cottages or twenty on it.

Lord Zouche.

Are you contemplating a double or single cottage ?—A double cottage.

What sort of a cottage ?—Each cottage with three bedrooms and a living room. And a kitchen behind with a scullery.

Built entirely of wood ?—Yes, except the fireplace and dividing wall. If you build a pair of cottages almost square you get them in with your party wall and your fireplace, and build all round with wood.

Have you had experience of such wooden cottages which have been built a fair number of years ?—I only mentioned the wooden house which I had to do with myself —that was a considerable house—I think it cost 1,700*l*. altogether—for a gentleman's residence. I have only been lately called in by the present owners to look it over, and there the timbers are as good as when put in. That is twenty-five years ago, but, of course, it has been painted from time to time. In Sussex they have a large number of timber cottages which have been standing for years and years with weather-boarding. They are repaired from time to time.

Lord Stanley of Alderley.

In the rural parts of America all the houses and farms are built of wood. Do you know how they wear ?—No. You come across barns which have been up for over hundreds of years, and there the weather-boarding is good and the timber is good.

BRITISH SCHOOL AT ROME.

THE following letter from Mr. John ff. Baker-Penoyre, secretary to the British Schools in Athens and Rome, has been issued :—

A widely-signed memorial was lately presented to the Prime Minister praying for a grant-in-aid to the British School in Rome. The managing committee will be grateful if, through your kindness, they may now inform the memorialists that the Board of Treasury has consented to propose to Parliament a grant of 500*l*., thereby admitting the school to parity of treatment with the British School in Athens, which has for ten years received the same support. In thanking the signatories for the support given to the memorial the committee hope that this recognition on the part of His Majesty's Government of the school's usefulness and efficiency will be taken as ground for increasing, rather than diminishing, the voluntary support hitherto generously accorded the school.

The memorial was sent to Mr. Balfour on June 29. The signatories to the memorial when it was received by Mr. Balfour included the Archbishops of Canterbury and York, a large number of bishops and clergymen and almost everyone of note in the spheres of education and art. There were also representatives of the British Academy of Letters, the Royal Academy of Arts, the Royal Institute of British Architects, the British Museum, the Royal Society, the Society of Antiquaries, the Society of Dilettanti, the Royal Asiatic Society, the Society for the Promotion of Hellenic Studies, the British School at Athens, the archæological institutions in Rome, the Universities of Oxford and Cambridge, the University of London, and all the provincial Universities in the United Kingdom and public schools.

GENERAL.

Architects' Benevolent Society.—In response to the special appeal made on behalf of the Architects' Benevolent Society by its president (Mr. John Belcher, A.R.A.), Mr. Walter Emden has offered to contribute 50*l.* provided nine other gentlemen will give the same amount. The President and Council will be glad to receive the names of gentlemen willing to support Mr. Emden's generous offer, as the Society is urgently in need of help.

Mr. A. F. Watson, architect, of Sheffield, was on Saturday appointed consulting architect to Northamptonshire County Council education committee, and Mr. G. H. Lewin, for nine years works' architect of Messrs. Cadbury Bros.' works at Bournville, was appointed building inspector to the same authority.

An Exhibition of original drawings and studies by the late Sir E. Burne-Jones was opened on Wednesday, the 4th inst., at the Manchester Municipal School of Art, Cavendish Street. The exhibition will remain open during October, November and December.

Mr. W. D. Caröe, M.A., F.S.A., architect to the Ecclesiastical Commissioners, at the Quarterly Court held at the Guildhall, was sworn into the office of Master of the Worshipful Company of Plumbers, and Mr. Adrian Pollock, City Remembrancer, and Mr. Charles Hudson, registered plumber, into the offices of Warden and Renter Warden, respectively, on election for the ensuing year.

The Glasgow Corporation on the 28th ult. considered a motion that in future competitions for public buildings employés in the service of any of the assessors be not allowed to compete. Another member moved that the matter referred to in the motion be remitted to a committee, which was carried by a majority.

Messrs. Nicholson & Corlette, New Inn, have been placed first in the competition for a new parish church at Epsom by the assessor, Mr. Fellowes Prynne. The total cost of the building, exclusive of tower and spire, is estimated at 14,500*l.*

Mr. J. W. Horton, M.I.C.E., deputy county surveyor of Hertfordshire, has been selected by the bridges and highways committee of the Derbyshire County Council for the post of county surveyor.

Mr. John Melvin, architect, died at his residence in Claremont, Alloa, on Saturday morning. An enthusiastic angler, he caught a chill while fishing, and pleurisy intervened. He was for many years sole partner in succession to his father in the firm of John Melvin & Son. Many of the principal buildings in the district were erected from his designs. He was fifty years of age.

Sir William Shelford, M.I.C.E., died in London on Tuesday at the age of seventy-one. He was chiefly engaged as consulting engineer on water-supply schemes, railways and the regulation of rivers and estuaries.

The Sites and Buildings Sub-Committee of the Derby education committee recommend that a first premium of 50*l.* and a second of 20*l.* be awarded respectively to Messrs. Hunter & Woodhouse, of Belper and Derby, and Mr. T. H. Thorpe (Wright & Thorpe), Derby, for competitive plans for a new Council school on a site between Clarence Road and Porter Road.

Mr. Mawson, landscape architect, having expressed a desire to have the question of payment for his services to the Dunfermline Trust settled privately, it was decided that he should receive the amount of his outlay, viz. 543*l.* 6*s.* 4*d.* The action in the Court of Session will accordingly be withdrawn.

The Royal Archæological Institute have accepted th invitation of the Worcester City Council to hold thei annual meeting in that city in 1906.

M. Charles Ephrussi, the French amateur, died in Pari on Saturday in his fifty-sixth year. He wrote a book o Paul Baudry, who was one of his friends, and on Alber Dürer, and was director of the *Gazette des Beaux-Arts.*

The Workmen engaged in excavation on the north-wes front of Durham Cathedral, where a memorial is to b erected to the officers and men who fell in the Sout African war, have discovered at a depth of 10 feet a numbe of interment cells. The cells are constructed of large slab of stone, and several contained the skeletons of persons o good stature. The age of the remains is difficult to judge but the interments were probably antecedent to the yea 1200 A.D. The remains will be reinterred in anothe portion of the cathedral graveyard.

The Blackburn Corporation are seeking advice about th flaws which have been discovered in the Gladstone statu which was set up six years ago at a cost of 2,500*l.*, and i formed of marble.

The Town Council of Aberdeen have adopted the repor by Mr. Charles Hawksley approving of a new water suppl from the river Avon at a cost of 835,000*l.* On a forme occasion he reported on a supply from the Dee which woul cost 710,000*l.* But the Avon is considered to afford a pure supply.

The Highways Committee of the Lambeth Boroug Council recently sent a circular letter asking the opinion o twenty-three firms interested as to their opinions on the best paving material. Fourteen favoured the use of wood three railway companies voted for granite pitching and one firm for macadam.

The Hastings Town Council have decided that the education committee can dispense with the services of a architect who was receiving the salary of 100*l.* per annum. The borough engineer will in future carry out any requisit work.

At a Recent Meeting of the Aberdeen Branch of the Scottish Ecclesiastical Society, Professor Cooper, Glasgow, said that an event of the greatest importance to the Society was that, by the late Sheriff Thom's will, a very large sum of money was available for the restoration of Kirkwall Cathedral. It was understood that the Provost and magistrates of Kirkwall had asked for suggestions with reference to the restoration of the building from architects throughout the country. It would conduce to the excellence of the work to be done if there was a committee composed o learned architects and ecclesiologists appointed to give advice on the matter. It would be well that whoever was to be the architect he should be constantly at work on the building, watching everything that might be done or discovered.

The Norwich Town Council have accepted a report from the general purposes committee with reference to the suggestion made at a Council meeting "that architects in private practice should be engaged to execute Corporation work." The committee were of opinion that it was already within the province of each committee to recommend the Council to retain the services of an architect in connection with any work under its control.

The University of Birmingham is approaching completion. On Monday Mr. Thomas Rowbotham, the contractor who is carrying out the work at Bournbrook, handed over to the Governors Blocks B and C of the building, and these portions will be occupied almost immediately. Block B is for the accommodation of civil and electrical engineering students and C for the study of mining and metallurgy. The mechanical engineering section, which is accommodated in Block A, has been open for some time past. The opening of the two new blocks leaves only the great hall to be constructed before the builder's work is completed.

Mr. William Melville, C.E., the arbitrator, has issued his decision in the reference between Messrs. Kennedy Bros., contractors, Glasgow, and the Ayr Harbour Trustees, arising out of the contract for the reconstruction of the North Quay wall of Ayr Harbour. Messrs. Kennedy Bros. claimed a sum of 25,797*l.* 11*s.* 1*d.*, and the Harbour Trust tendered a sum of 19,464*l.* 10*s.* 8*d.* in settlement of the claim. The arbitrator had found the claimants entitled to 20,441*l.* 10*l.* 5*d.*, and disallowed their claim for the balance of 5,356*l.* 1*s.* 8*d.* The Harbour Trust's counterclaim for 1,560*l.* of penalties was disallowed with expenses.

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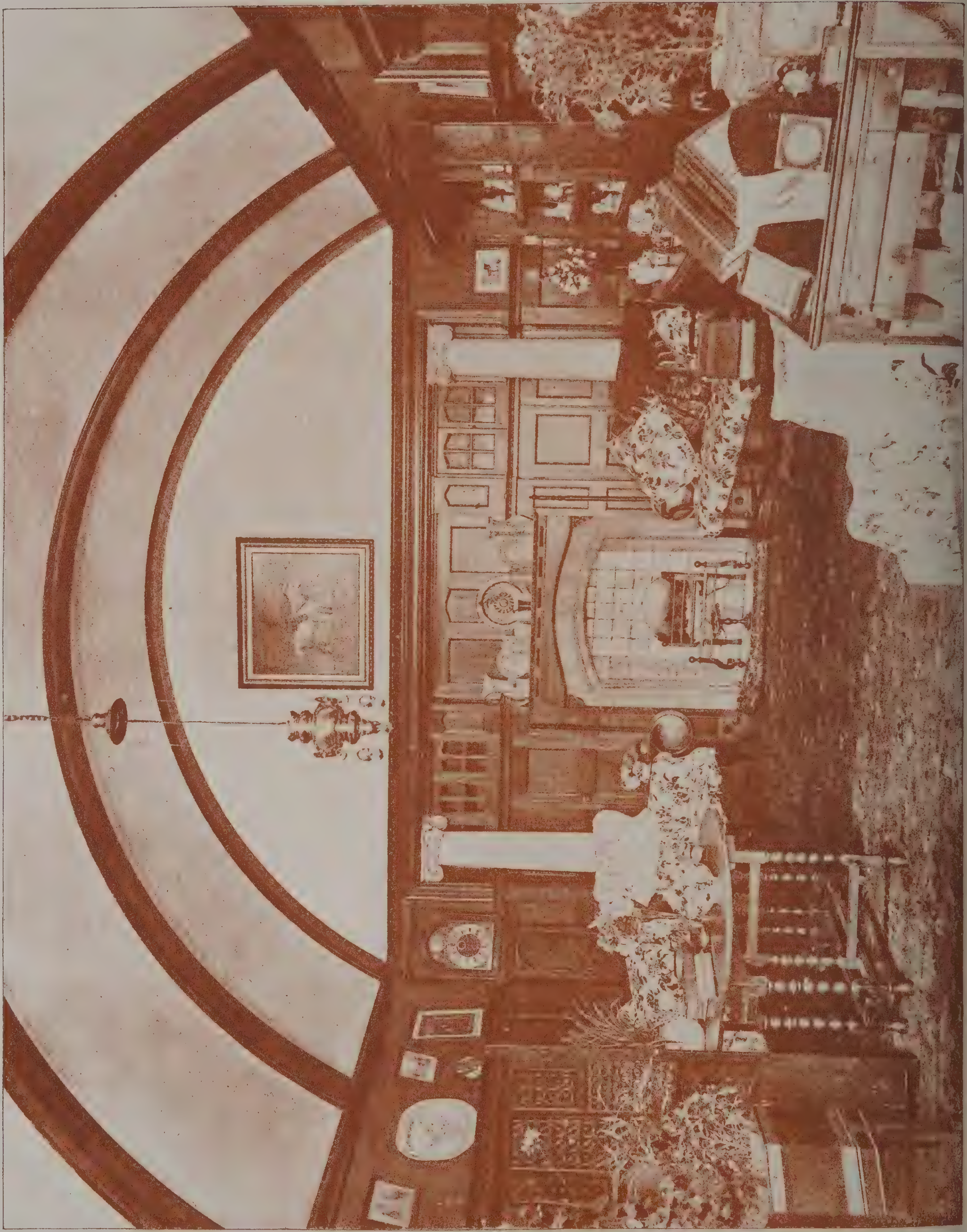

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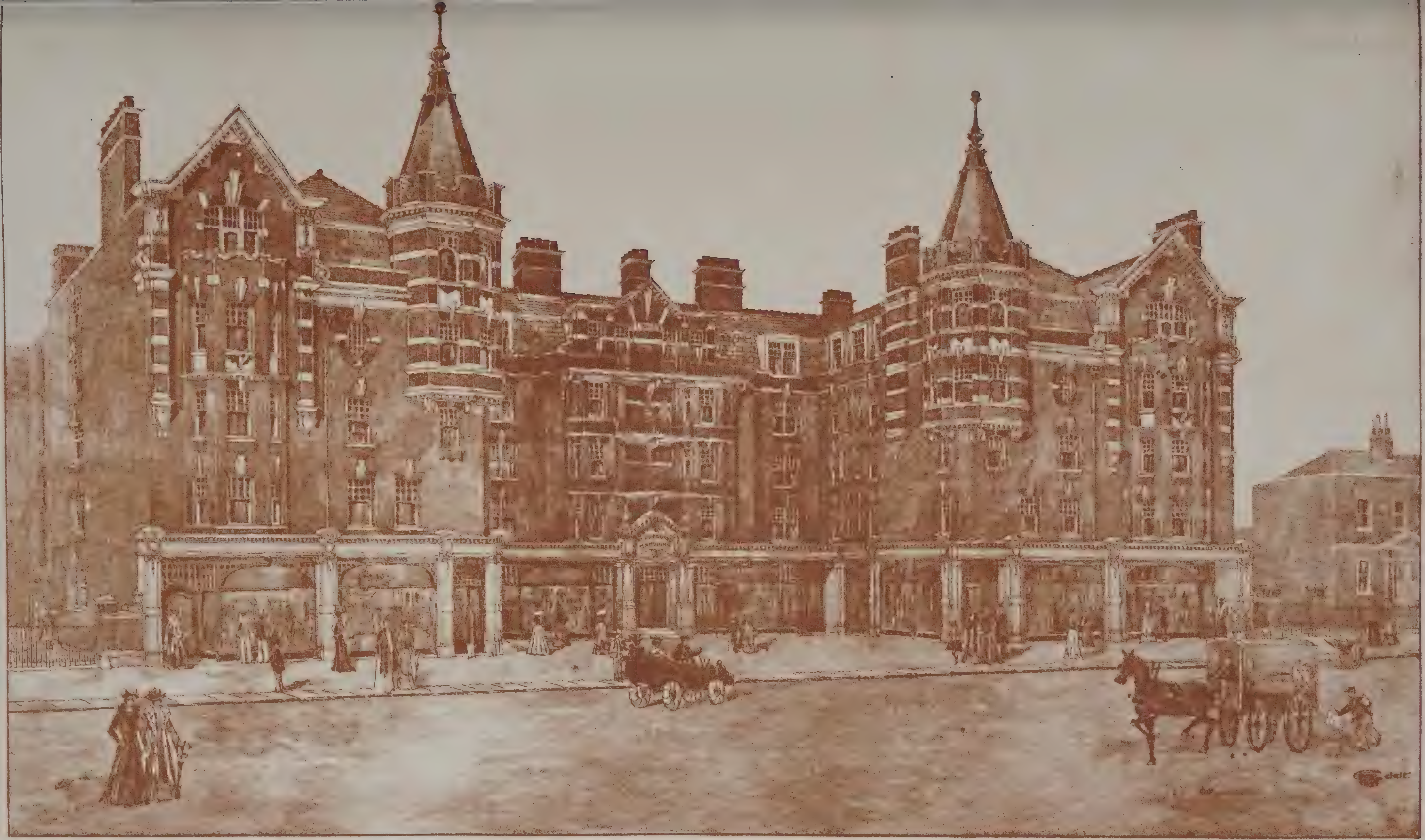

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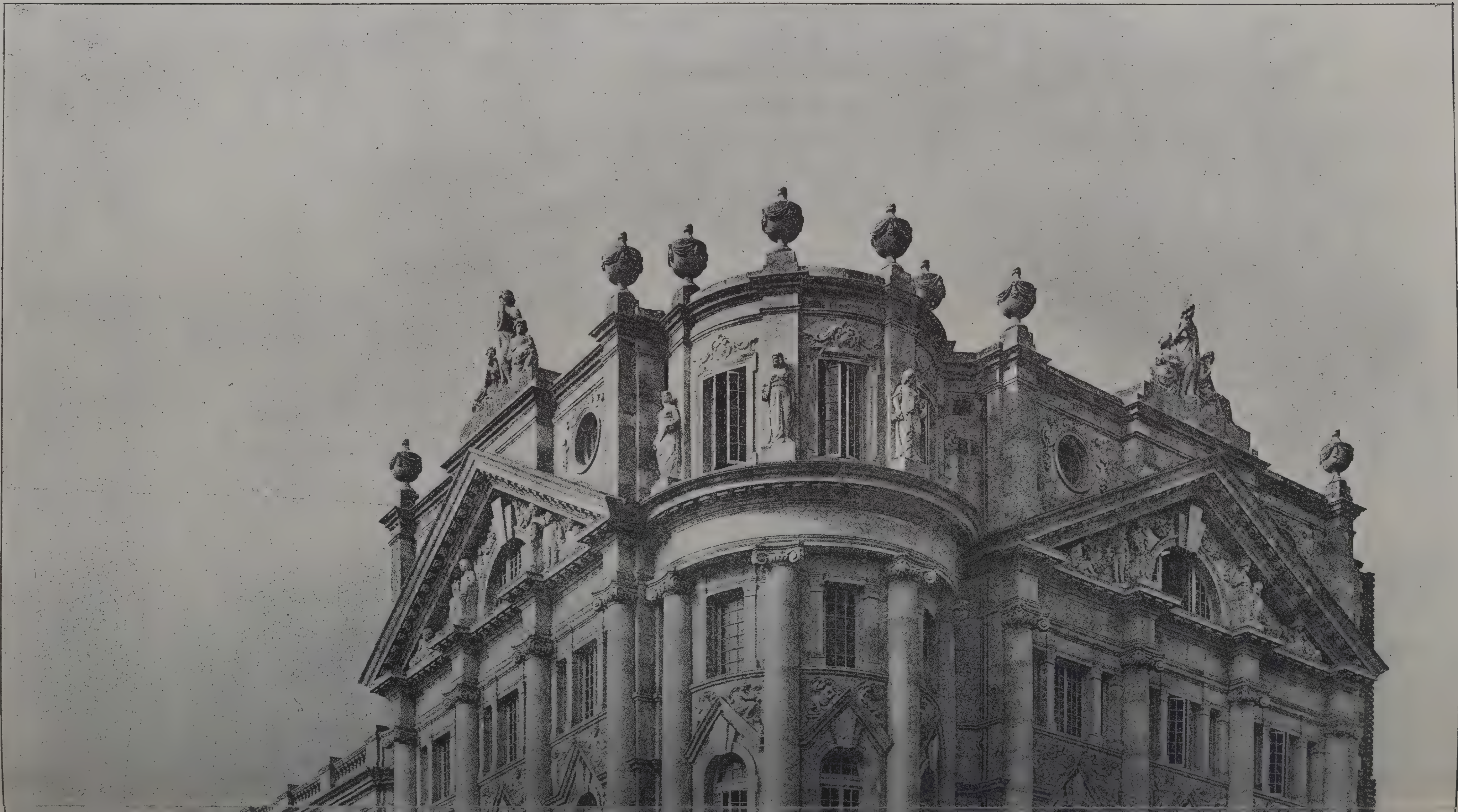

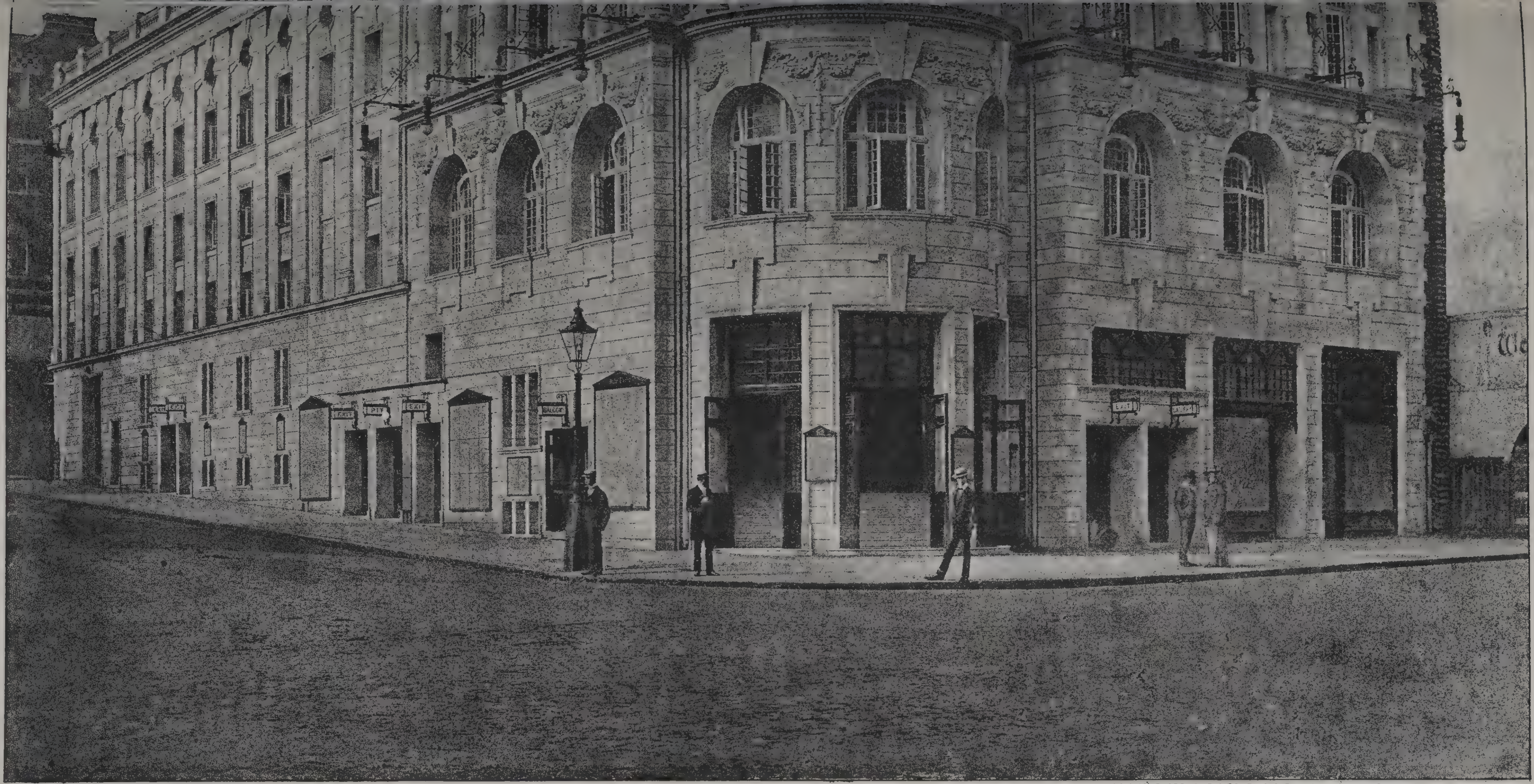

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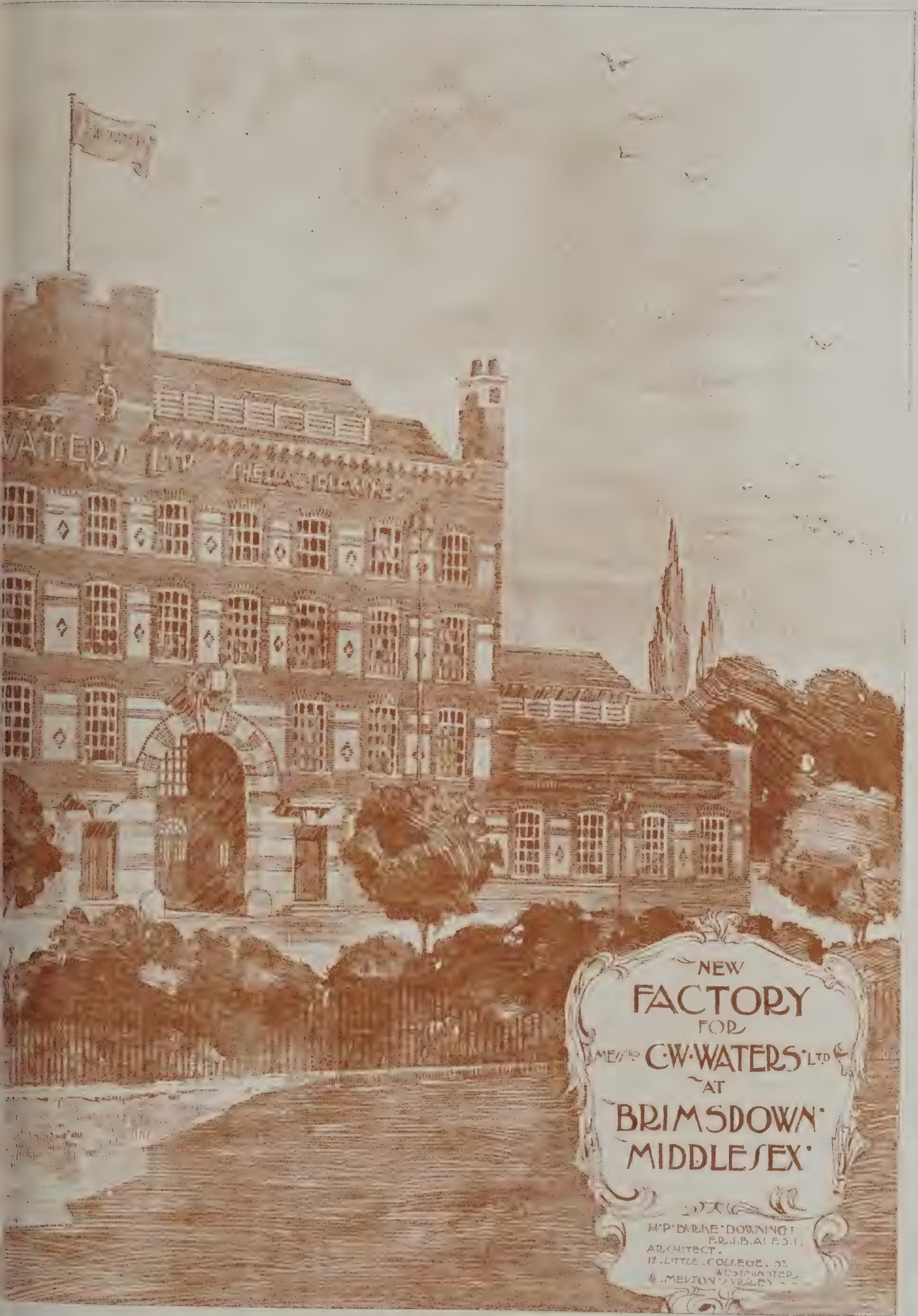

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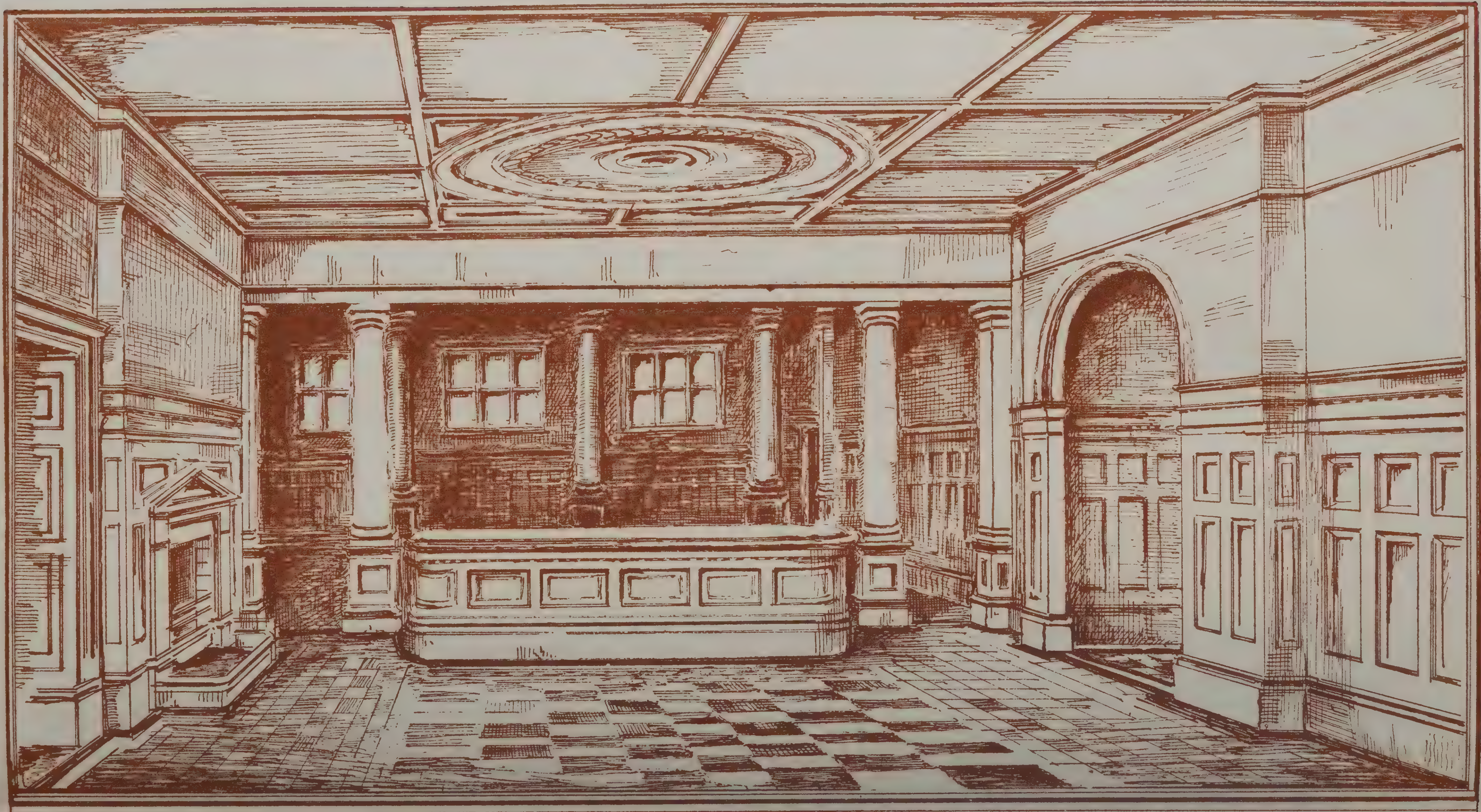

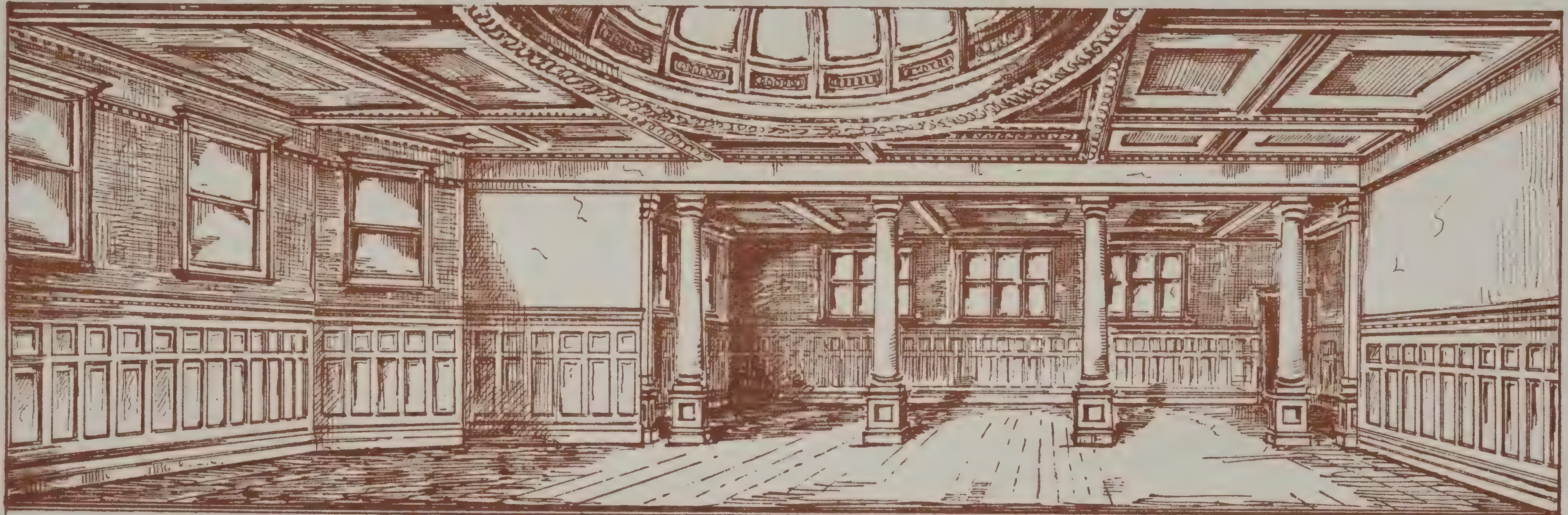

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The Architect.

THE WEEK.

It might be imagined from the statements which have appeared in the newspapers that the Ayr Town Council had decided to preserve the "Auld Brig" regardless of the cost and the difficulty. The truth is that the works committee and the Council are in favour of reconstruction, but they have respited the bridge for four months, when a final decision will be given on the subject. The reports which various engineers voluntarily offered were submitted to Sir William Arrol. In a communication to the Council respecting them he says:—"I have read over the reports carefully, and I do not think any of the proposals made will remove the difficulty of the reconstruction of the old structure. I am satisfied that the only proper method to make the bridge satisfactory, and at the same time retain its original character, is to carry out the proposal Mr. Hall Blyth made. I do not think any of the schemes now proposed will be satisfactory, but do not wish, however, to discuss any of them in detail. There are, no doubt, merits in each of the proposals, but on the whole I think they are impracticable in the present condition of the Old Bridge." After reading his letter the following resolution was adopted:—"That in view of the strongly expressed opinion of eminent engineers and many influential members of the public that the Auld Brig can without danger be restored and preserved without being taken down, and also that said members of the public have expressed their willingness to find the money required for this work, the Council resolve to delay carrying out operations on the bridge, in terms of the resolution of May 8, for a period of four months from this date, to allow the said persons an opportunity of providing the means for such restoration and preservation, and also of satisfying the Council that the methods they propose for such restoration and preservation will be such as to insure permanency." The treasurer stated that the Council had accepted a bequest for rebuilding the bridge, and they were advised the money could not be applied to restoration. As there was a delay of four months the public would have an opportunity of coming forward and doing what they had indicated they were prepared to do, namely, to provide for the preservation and restoration of the bridge without taking it down. It is quite characteristic of modern enthusiasm that, although sentiment was expressed throughout the world, only a few pounds were received by the Council to pay for the preservation of the bridge. If the public desire, the bridge can be preserved as a relic; but the people of Ayr will not tax themselves for that purpose.

The report respecting the terrible condition of habitations in the island of Lews or Lewis, of which we published a part last week, will not be allowed to be relegated to a pigeon-hole and forgotten, like many other documents of the same kind. The Local Government Board for Scotland have informed the sanitary authority that effective measures must be taken at once to deal with the nuisances described in the report. A return is to be furnished by the sanitary inspector showing the number of cases in which the byre or stable has been separated from the dwelling up to October 31. A reorganisation of the executive system, and more energetic action on the part of the local authority are demanded. The district committee consider they have not been well treated by the publication of such a report. It is pleaded that the maximum assessment for public health has been reached, and there is no power to borrow money for sanitary purposes. Three years ago the committee recommended that an Act of Parliament be obtained empowering them to pull down dangerous dwellings, and to carry out other improvements, but nothing has been done owing to the want of money. It is asked that provision should be made, as in Ireland, for pulling down and rebuilding insanitary houses. In other words, the people must look elsewhere for aid if they are to be preserved.

Two years ago one of the friends of Mr. J. J. Burnet, A.R.S.A., gave him 600*l.* for the purchase of pictures. Three, viz. *A Provençal Winter*, by H. H. la Thangue, A.R.A.; *Durham, Evening*, by W. Y. Macgregor, A.R.S.A., and *An Ayrshire Landscape*, by George Houston, were secured. The same donor has now offered, through Mr. Burnet, 300*l.* for the encouragement of sculpture. The money is to be applied in the purchase of one or more pieces from the exhibition of the Royal Glasgow Institute in 1906, to be added to the collection in the City Art Galleries, or for the public parks. The donor suggests that the Corporation should supplement the 300*l.*, or agree to expend independently a similar or a larger amount. The only stipulation made is that the gift is to be considered as an anonymous one. There are several able sculptors in this country who are competent to produce statues and reliefs worthy to be seen in a public gallery. But they need encouragement, and that is not likely to be forthcoming unless amateurs like Mr. Burnet's friend can be discovered.

An inquiry has been held before a Local Government Board inspector in Walsall respecting the application for authority to borrow an additional sum of 25,000*l.* to meet the extra cost of the new municipal buildings. In 1900 the Council obtained an Act enabling them to borrow 75,000*l.* for the erection of the buildings. It was not contemplated to spend more than 55,000*l.* upon the actual erection of the buildings, and the balance of 20,000*l.* was intended to be applied to the cost of a site, furnishing and any contingencies which might arise. When, however, estimates came to be considered, it was found that the building alone could not be carried out for less than 67,650*l.*, and in the progress of the work additions had to be made to the contract to the extent of 11,626*l.*, while other items, which included 5,250*l.* for furniture and fittings, 4,004*l.* architect's commission, and 1,250*l.* for street making, made up a further sum of 14,571*l.*, the total expenditure unprovided for thus being 26,198*l.* The Corporation, however, anticipated the 25,000*l.* they proposed to borrow would clear their liabilities when amounts in dispute were settled. The people of the town are, however, so well satisfied with Mr. J. S. Gibson's building, that, although the rates are 8*s.* 2*d.* in the £, there was no opposition to the application.

The palace of Versailles needs restoration, and in an article on the subject M. Alphonse Bertrand, who is an authority, tells a curious story about French thrift. It appears that Napoleon gave orders that the numerous statues should have additions, and he selected the generals, Colbert, d'Espagne, Roussel and Walhubert, who had been killed in battle as subjects. They were not great commanders, but the Emperor probably looked on them as friends. The four statues were hardly completed when the Empire collapsed. During the succeeding years they were neglected. When, after the Revolution of 1830, Louis-Philippe came to the throne, he decided that Versailles should be a second Panthéon dedicated to the glory of France. He wished to show the people he was well disposed towards the Revolution and the Empire, and if funds were available a crowd of additional figures would be set up at Versailles. It was resolved, however, to utilise the figures ordered by Napoleon. They were decapitated and others substituted. They now represent the Marshals Jourdan, Masséna, Lannes and Mortier. The operation of converting old statues into new idols might often be performed advantageously in French cities and towns.

BRICKWORK TESTS.

Countless buildings were erected throughout the world with brick walls without any thought being given to the strength of the bricks employed. In such cases tradition served instead of experiments. Just as certain dimensions were adopted for a brick in this country, although larger and smaller sizes would often be more convenient, the number of bricks which should be employed in the thickness of a wall was adopted with as much faith in their sufficiency as if the subject had been determined by scientific investigations which could not be questioned. Elsewhere empiricism was also dominant. When at length experiments were devised by foreigners they were conducted with the aid of specimens of an insignificant size. Tredgold, who may be regarded as the first Englishman who treated the subject with any respect for system, was compelled by his poverty to make experiments on a similar and no less insufficient scale. When a great work like the construction of the Britannia Bridge was under consideration, in which brickwork was likely to be used, it became necessary to avoid depending on tables which were to be found in books relating to the strength of materials, and to make special experiments. The following record of one conducted in January 1848 deserves to be mentioned for the care taken to obtain results by the application of a direct weight :—

	Lbs. per Sq. Inch.
9-inch cube of cemented brickwork, No. 1 (or best quality), weighing 54 lbs., set between deal boards, crushed with 19 tons 18 cwt. 2 qrs. 22 lbs.	=551.3
9-inch brickwork, weighing 53 lbs., set in cement, crushed with 22 tons 3 cwt. 0 qr. 17 lbs. . .	=612.7
9-inch brickwork, weighing 52 lbs., set in cement, crushed with 16 tons 8 cwt. 2 qrs. 8 lbs. . .	=454.3
9¼-inch brickwork, weighing 55½ lbs., set in cement, crushed with 21 tons 14 cwt. 1 qr. 17 lbs. . .	=568.8
9-inch brickwork, weighing 54½ lbs., set between boards, crushed with 15 tons 2 cwt. 0 qr. 12 lbs.	=417.0
Mean . . .	521.0

The three last cubes of common brick continued to support the weight, although cracked in all directions : they fell to pieces when the load was removed. All the brickwork began to show irregular cracks a considerable time before it gave way. The average weights supported by these bricks was 33.5 tons per square foot, equal to a column 583.69 feet high of such brickwork.

Stephenson's experiments must have been known to Professor Rankine, who put down the resistance of weak red brick to crushing by a direct thrust as from 550 to 800 lbs. per square inch, strong red brick being 1,100 lbs. and firebrick 1,700 lbs. The resistance to tearing was said to be 280 to 300 lbs. According to him, "good bricks when set on end in an hydraulic press should require at least 1,100 lbs. on the square inch to crush them, and they will sometimes bear considerably more. A small pillar of brickwork, made of bricks of this quality laid in cement, should require from 800 to 1,000 lbs. on the square inch to crush it. Bricks in general begin to show signs of giving way by splintering and cracking when under about one-half or two-thirds of their crushing load. The weaker qualities of bricks may be estimated as having from one-half to two-thirds of the strength stated above."

An important series of experiments was made for the Metropolitan Board of Works by the late James Grant. He gives the following as the weights required per square inch to crush various bricks :—

	Lbs.
Unburnt bricks	515
Sittingbourne stocks	2,083
Fareham reds	1,612
Ditto rubbers	716
Tipton blue	873
Exbury best	1,702
Gault	2,105
Ditto wirecut, No. 2	2,128
Ditto pressed, No. 1	2,240

The foregoing figures will suggest what is generally known about bricks prior to the tests which were conducted by a sub-committee of the Royal Institute of British Architects. At first the members were Messrs. H. W. Burrows, H. Faija and W. C. Street. Mr. Max Clarke and Professor Unwin joined the sub-committee on the death of Mr. Faija, and later Messrs. Bernard Dicksee and Matt. Garbutt. Originally it was decided to test London stocks, gaults, Leicester reds and Staffordshire blue bricks. The report which has been recently published says :—"It was decided to construct piers of each variety of brick 6 feet high and 18 inches square—all alike. Two of each in lime mortar and two in Portland cement mortar were to be experimented upon at the end of three months approximately, and a similar number at the end of six months after building. The latter constitute the second series of experiments. The reason for having tests at two different periods was to ascertain, if possible, what additional strength the brickwork gained in six months beyond that shown by the experiments at the end of three months, as this is of importance, considering the great rapidity with which brick buildings are run up, and sometimes loaded with great weights while the brickwork is green and the mortar very slightly set." Afterwards Fletton bricks were added. The tests were made by means of an hydraulic press lent by Sir William Arrol, and they took place on a piece of ground at the West India Docks. The materials were of the ordinary quality. The bricks were wetted both in the stack and before use. The thickness of the joints was about ¼ inch, those of the stock brick piers and walls being rather more, in order to have four courses to the foot. By arranging the bricks in piers there was a near approach to ordinary practice. But the results necessarily differed from experiments like those which we have given above, and which were derived from much smaller masses. There is another difference. Hitherto pressures and crushing strength were usually resolved into square inches, but in the Institute tests stresses are given per square foot.

It was found that some of the bricks "could not be crushed as whole bricks in the 100-ton testing machine." This is remarkable, for in Stephenson's experiments the bricks were crushed under a weight of 33½ tons, and Rankine considered 60 tons to be a high standard. Grant, however, found that one of his gault bricks required about 144 tons. The London stocks in the Institute trials bore nearly 93 tons, red rubbers 84 tons and a gault brick 192 tons. These experiments were on whole bricks, for the half-bricks were much weaker, and it is concluded by the committee that "bricks tested as half bricks may be expected to crush with about 25 per cent. less pressure per square foot than the same bricks tested as whole bricks." More extraordinary results were obtained. In the third series the crushing stress of one kind of Fletton bricks was found to be 202 tons per square foot, while with another kind it was 239 tons, and a blue Stafford brick held out until 779.6 tons were registered.

Briquettes were also made of lime and cement with sand. With those composed of 2 of sand to 1 of grey lime by volume the highest crushing stress was 16.65 tons. One briquette composed of 4 of sand to 1 of Portland cement rose to 60.44 tons. In the second series higher results were obtained. This difference between the strength of mortar and bricks, which is further corroborated by the numerous photographs in the pages, indicates and explains one of the causes by which in most settlements or subsidences of brickwork the line of weakness is generally along the joints.

It will be necessary for anyone who takes an interest in the subject to study closely the tables which are given. The effects of the pressure are often surprising. One pier of London stocks with lime mortar exhibited signs of weakness when the pressure was only 4.18 tons per square foot. Another pier of gault bricks did not collapse until the pressure was 22.03 tons, yet at 4.12 tons there were "slight sounds of internal cracking or crumbling." Similar sounds were heard at 4.9 tons in a pier of Leicester red bricks. With a pier of Staffordshire blue bricks sounds of mortar cracking were not heard until the pressure was 16.33 tons. In the remarks on the first series of experiments it is said:—

> The observed effects of pressure were similar in most cases, but varied in degree with the different materials. Generally the first evidences of strain were slight internal cracking sounds, audible only on applying the ear to the brickwork. Then the mortar squeezed out of the joints and fell off—this occurring to a greater extent with the harder bricks, and being more marked where lime mortar was used than with cement. This was accompanied or followed by cracks occurring in single bricks, which from slightly irregular bedding or other cause were unevenly stressed, and by the spalling off of small corners or pieces of the face for similar reasons. By this time the joints were generally noticeably compressed, and serious cracks, indicating final lines of rupture, appeared. The piers at this point generally bulged outwards, slowly at first, and then, the resistance of the brickwork ceasing, the falling of the pressure gauge gave warning that actual collapse was imminent. In the case of the harder bricks set in cement, the final failure was much more sudden than in the others, so much so that some agility was necessary on the part of the man who, to measure its compression, stood close to the pier. From the beginning of the tests all through the series it was evident that the vertical line of joints formed by the closers was a plane of weakness, and it was generally at this line that the serious cracks first showed themselves.

In the second series of tests some anomalies were presented. Brick piers which had been tested six months earlier appeared to have become weaker. The reason was that they suffered when compared with the new piers of better brickwork, which took the place of those which had collapsed in the former trials. Very high averages are to be observed in the tables relating to the second series. A pier of Staffordshire blue bricks did not give way until the pressure was 108.25 tons per square foot. But no other bricks reached so high a standard.

The third series of experiments related to walls which were specially built and were generally about 6 feet high. London stocks in them resisted up to 19.83 tons; Kentish gaults, 31.34 tons; Leicester reds, 45.94 tons; Staffordshire blue, in one case 110 tons; Fletton bricks, 30 tons. The committee in their remarks on these tests say:—

> The resistance to crushing of brickwork in lime mortar would seem to vary from one-sixth to one-eighth of the resistance offered by the brick itself, while in cement mortar it varies from one-half to one-fifth of that strength. In dealing with the working load that may be calculated upon, care must be taken not to impose such a load as would materially damage the structure of the brickwork. At one-fifth of the crushing load the compression in lime mortar averaged 7-32 inch in 6 feet of brickwork, and in cement mortar it averaged 5-32 inch. Another thing that will have to be remembered is the great difference between dead and live loads. It would have been very interesting f experiments could have been devised to ascertain this difference. The influence of form upon strength has to be considered, but under the ordinary or average conditions of practice the form of brickwork does not appear very greatly to affect the strength, the 18-inch square piers having given approximately similar results per square foot o those obtained from specimens 27 inches by 18 inches, nd in a building of any considerable height the total eight may generally be considered as divided by each oor. Otherwise, the effect of a shearing or a bending train, however introduced, would be fatal to any walls of great height and length.

It is difficult to draw averages which will be applic-ble in practice when there may be differences as wide s between eight and twenty-nine. In cases where there are doubts special tests should be applied. The by-laws which fix the thickness of walls are not based on a belief that all bricks are of a high quality. But experience shows that it is only in exceptional cases bricks succumb. There can be no doubt that English bricks come up to the standard which is adopted in other countries. In New York the working strength of brickwork in Portland cement mortar is about 13 tons per square foot; in lime and cement mortar 10 tons, and in lime mortar 7 tons. That is much less than the average for London stocks in the Institute tests.

The sub-committee have merited the thanks of all architects for the patient labour and the close observation which were necessary for the production of so much information. It is not to be expected that bricks will be uniform in strength or in other qualities, and the tables, which may be considered as unique of their kind, will always be valuable as data to those who have to employ brick as a building material.

THE CARTOONS.

ENGLAND is fortunate in possessing the two greatest works—or, rather, collections of works—in painting and sculpture which have been produced, viz. the Parthenon marbles and the Cartoons by RAPHAEL. The latter may not be considered by some critics as examples of painting, for they are only slightly coloured in distemper. But it is well to remember that in the qualities desired for painting, such as invention, composition, expression and representation of the figure, they are pre-eminent. The two collections were acquired under different circumstances. The sculpture of the Parthenon frieze was paid for by Parliament, but it cannot be denied that Lord ELGIN became possessor by means which were not altogether satisfactory, and which would not be tolerated at the present time. The cartoons were purchased by CHARLES I. According to WALPOLE, "they had remained in Flanders from the time that LEO X. sent them thither to be copied in tapestry, the money for the tapestry having never been paid. RUBENS told the king of them, and where they were, and by his means they were bought." At the sale of the king's collection the cartoons were secured for the country at the desire of CROMWELL.

The gift of the Baron D'ERLANGER of some tapestries which were executed in the seventeenth century, after the cartoons, gives a new interest to the latter. JEAN RAES, to whom they are credited, was one of the master tapestry-weavers who lived in Brussels in the beginning of the seventeenth century. It is recorded that he wove a set of *The Acts of the Apostles* by RAPHAEL for the barefooted Carmelites of Brussels. Possibly he made more than one reproduction. As nearly a century had elapsed since the weavers at Arras had carried out the first set, which is in the Vatican, under the direction of BERNHARD VAN ORLEY, the Brussels series can only be considered as copies of copies. The original cartoons, that is to say, seven of them, cut into strips and with the outlines pricked, were still at Arras in 1630, when RUBENS saw them and purchased them for the English king. There is no evidence to show that they were lent, and we may therefore take it for granted that the pieces with which Baron D'ERLANGER has endowed the nation were not derived directly from the cartoons which are to be seen in the gallery at South Kensington.

The tapestry, it is well known, was intended to adorn the Sistine Chapel on certain great festivals. The chapel had been painted by MICHEL ANGELO. But as his figures were nearly all of a sculpturesque character and were executed in a severe style, being little more than monochromes, there was room for some works in brilliant colours. It was an old custom in Italy, which is still retained, to introduce coloured drapery and even to shroud works of art by that means in order to insure a general effect. When it was proposed to LEO X. that he should order tapestries which would have the colours enhanced by a liberal use of gold threads, the Pope was unable to resist the temptation. Vasari gives the following account of the transaction :—

> The Pope desired to have certain very rich tapestries in silk and gold prepared, whereupon Raphael made ready the cartoons, which he coloured also with his own hand, giving them the exact form and size required for the tapestries. These were then despatched to Flanders to be woven, and when the cloths were finished they were sent to Rome. This work was so admirably executed that it awakened astonishment in all who beheld it, as it still continues to do; for the spectator finds it difficult to conceive how it has been found possible to have produced such hair and beards by weaving, or to have given so much softness to the flesh by means of thread, a work which certainly seems rather to have been performed by a miracle than by the art of man, seeing that we have here animals, buildings, water and innumerable objects of various kinds, all so well done that they do not look like a mere texture woven in the loom, but like paintings executed with the pencil. This work cost 70,000 crowns and is still preserved in the Papal chapel.

It was not unusual to have designs for Flemish tapestry prepared in Italy. The painters who produced them were opposed to the Mediæval style by which the tapestries appear to be enlargements of illuminated manuscripts. It is not certain, however, whether Raphael was exactly the man to undertake the designing, inasmuch as he paid little respect to tradition. He was, nevertheless, always prepared to co-operate with those who followed processes of reproduction. He aided Marc Antonio and Albert Dürer. He gave designs for mosaics for the Chapel Chigi. He was also willing, like other Renaissance artists, to vary his employment as a painter by preparing designs for architecture and by working in marble. It is only necessary to look at the cartoons in order to realise that the artist must have been delighted with the opportunity afforded him, and put all his power into the compositions. Their sublimity appears spontaneous. It should be remembered that some years before, when Michel Angelo dared to differ from Julius II. and left the Sistine Chapel half painted, Bramante used all his influence to persuade the Pope to employ Raphael to complete the work. A letter from Michel Angelo still exists which states that all his differences with Julius were owing to the envy of Bramante and Raphael. What Bramante might have done we need not discuss, but it does not seem likely that Raphael, who declared himself fortunate in having been born in the same age as Michel Angelo, would have acted so meanly. He had enough work to occupy his extraordinary energy. It was, however, reasonable that he should rejoice at being enabled to have his own compositions compared with those of Michel Angelo in the same building. If the designs were to be executed in fresco or in oils on canvas Raphael would probably have adopted a different scheme of colour. Evidently he thought of the manner of reproduction and made allowances for it. The competition with Michel Angelo would be one of form, and whatever the colour the character of Raphael's figures would be manifest. He prepared eleven cartoons, of which seven are in the South Kensington Museum. Baron d'Erlanger's gift comprises nine pieces, for two of which the cartoons do not exist, viz. *The Martyrdom of St. Stephen* and *The Conversion of St. Paul.*

It is unnecessary to enter into detail about the value of the cartoons as examples of art. Critics of all countries have united in praising them. In them we have, as it were, the whole life of Raphael, the gentleness and purity of his early days and the knowledge which he had acquired by continuous study. Our wonder is increased when we remember that they were only the incidental productions of a man of thirty who was simultaneously engaged on works which were considered to be of more importance. Many who have compared the pieces for the walls of the Vatican with the cartoons have given preference to the latter.

The tapestries have had a strange history. Walpole recorded the belief that the weavers were not paid for them. They arrived in Rome in 1518, *i.e.* two or three years after the completion of the cartoons. Raphael was therefore able to see them, for they were exhibited for the first time on September 26, 1519, and he died in the following April. They were not allowed to remain long in the Sistine Chapel, for the troops of Charles V. seized on them in 1527 when Rome was sacked. They were sent to Lyons. Clement II. offered 160 ducats in order to rescue them, but without effect. Afterwards they became the property of the Constable Anne de Montmorency, who sold them to Julius III. in 1555. They were stolen in 1789, and one of them was subjected to fire and destroyed in order to obtain the gold used for the threads. The others were afterwards disposed of to some merchants of Genoa. They were repurchased by Pius VII. in 1808 and they have since remained in the Vatican.

CANALETTO'S VIEWS OF VENICE.—XII.

The church of St. Jeremiah, which appears so prominently in the illustration, was founded by Marco Tosello. The building has been greatly altered since Canaletto's day. The Campanile still forms a conspicuous object as seen from the Grand Canal, which here turns, the wider part leading to the railway station. The traffic mostly passed under the bridge by the Canal Regio, which was closely bordered by houses. Among the prominent buildings on the left side are the Palazzo Labia. This part of the Canal should have more than the usual interest for Englishmen, for it was thereabouts Sir Henry Wotton, the ambassador from England, and the author of one of the earliest books on architecture, resided. The high houses at the beginning of the Canal Regio were part of the Ghetto, and, according to Thomas Coryat, of Odcombe, in Somersetshire, who visited him, "his house was in the same street where the Jewish Ghetto is, even in the street called St. Hieronimo, and but a little from it." Coryat received many favours at his hands, and on one occasion his life was saved at the bridge seen in the illustration through the ambassador's interference. He describes Wotton as possessing singular learning and exquisite knowledge in Greek and Latin and the most famous languages of Christendom, and they were expressed with a plausible volubility of speech which won for him the inward friendship of the Christian ambassadors in the city. Coryat was in Venice in 1608, and he was probably the earliest traveller who made known to Englishmen the peculiarities of the city. The goodly fair channel, known as the Grand Canal, was, he says, adorned on both sides with sumptuous and magnificent palaces which make a very glorious and beautiful show. The following quaint description of the buildings deserves to be reprinted as recording the observation of an English traveller three centuries ago :—

> Many of them are of a great height three or four storeys high, most being built with bricke, and some few with a faire free stone. Besides, they are adorned with a great multitude of stately pillers made partly of white stone and partly of Istrian marble. Their roofes doe much differ from those of our English buildings. For they are all flat, and built in that manner as men may walke upon them, as I have often observed. Which forme of roofing is generally used in all those Italian cities that I saw, and in some places of France, especially in Lyons, where I could not see as much as one house but had a flat roofe. The like whereof I have read to have beene used in auncient times in Jerusalem and other cities of Judæa. Which I partly gather by a speech of our Saviour Christ, when as sending his twelve Apostles to preach in Judæa, he commanded them that what they heard in the eare they should preach on the houses. Whereby I understand that the roofes of their houses were flat like these of the Venetian buildings. Moreover, their tiling is done after another manner than

The Entrance of the Canal Regio, from the Church of St Jeremiah:

ours in England. For they lay it on hollow, but we flat. Many things I observed in these Venetian Palaces, that make them very conspicuous and passing faire; amongst the rest these two things especially. Every Palace of any principall note hath a pretty walke or open gallery betwixt the wall of the house and brincke of the river banke, the edge or extremity whereof is garnished with faire pillers that are finely arched at the top. This walke serveth for men to stand in without their houses, and behold things. Suetonius calleth these kinde of open galleries Podia. Truly, they yeeld no small beauty to their buildings. Againe, I noted another thing in these Venetian Palaces that I have very seldome seen in England, and it is very little used in any other country that I could perceive in my travels saving only in Venice and other Italian cities. Somewhat above the middle of the front of the building, or (as I have observed in many of their Palaces) a little beneath the toppe of the front, they have right opposite unto their windows a very pleasant little tarrasse, that jutteth or butteth out from the maine building: the edge whereof is decked with many prety litle turned pillers, either of marble or free stone to leane over. These kinde of tarrasses or little galleries of pleasure Suetonius calleth Meniana. They give great grace to the whole edifice, and serve only for this purpose, that people may from that place as from a most delectable prospect contemplate and view the parts of the city round about them in the coole evening. Withall I perceived another thing in their buildings, which as it is the rarest thing that ever I saw in my life, so I hold it convenient to be mentioned in this discourse. The foundations of their houses are made after a very strange manner. For whereas many of them are situate in the water, whensoever they lay the foundation of any house they remove the water by certain devices from the place where they lay the first fundamental matter. Most commonly they drive long stakes into the ground, without the which they doe "aggerere molem," that is, raise certaine heaps of sand, mudde, clay, or some other such matter to repell the water. Then they ramme in great piles of woodde, which they lay very deepe, upon the which they place their brick or stone, and so frame the other parts of the building. These foundations are made so exceeding deep, and contrived with so great labour, that I have heard they cost them very neare the third part of the charge of the whole edifice. But all the houses of the city are not founded with this difficulty. For those that are built upon the middle of the Islands, or any other part thereof, saving only upon the bricks or in the very water itselfe, are founded in that manner as other houses are, upon the mainland.

According to Coryat there were in Venice and the adjacent islands 200 churches, 54 monasteries, 26 nunneries, 56 tribunals, 17 hospitals and 165 marble statues of worthy personages. There were 155 wells for water supply, 450 bridges (some of timber) and 120 palaces. The population was about half a million. In conclusion he says :—"Had there bin an offer made unto me before I took my journey to Venice, eyther that foure of the richest mannors of Somerset-shire (wherein I was borne) should be gratis bestowed upon me if I never saw Venice, or neither of them if I should see it; although certainly those mannors would do me much more good in respect of a state of livelyhood to live in the world, then the sight of Venice: yet notwithstanding I will ever say while I live, that the sight of Venice and her resplendent beauty, antiquities and monuments, hath by many degrees more contented my minde, and satisfied my desires, then those foure Lordshippes could possibly have done." The words are evidence of a state of enthusiasm for the city which went beyond anything expressed by Mr. Ruskin.

ST. NICHOLAS CHAPEL, CARISBROOKE.

THE chapel of St. Nicholas in the Castle of Carisbrooke, which has been rebuilt as a memorial to Charles I., was in existence at the time of the Domesday Survey, where its original endowment, a hide in Shalcombe, is entered under the lands of the religious houses. With the lordship it came into the possession of the great De Redvers family, and Baldwin de Redvers granted it to his newly founded abbey of Quarr. From the castle accounts of 1292, it is evident the vicar had a separate dwelling-house within the castle walls, and he appears to have had a chaplain under him at the yearly salary of 13*s.* 4*d.* With the island community the chapel remained till the Dissolution, and frequent mention occurs in various documents of the advowson being in the convent's hands and of the Abbot of Quarr being required to repair his "chapel in the Castle of Carisbrooke." Indeed, the last Abbot of Quarr ended his days as vicar of St. Nicholas, on a stipend of 6*l.* 13*s.* 4*d.* and a pension of 2*s.* 4*d.* paid from the tithes of Shalcombe. Henceforward it may be described as a garrison chapel in the gift of the Crown.

When the custom of swearing in the Mayor of Newport within the walls of St. Nicholas began is uncertain, but the older bailiffs of Tudor times had always to attend and take the oath before the captain at the castle, as is shown in the old Ledger Book of 1567; indeed, the charter of Charles II. enjoins the mayor "after his election and before the feast of St. Michael the Archangel next following to attend before the captain of the Isle of Wight, or his steward for the time being, in the chapel of Carisbrooke Castle, for the purpose of being sworn in." A noteworthy entry in the Newport Corporation books gives the whole procedure after the election of the mayor in the town. When this picturesque ceremony was discontinued has not yet been ascertained, but Albin, in his history of the island, 1795, says, "in this chapel the chief magistrate and high constables of the town of Newport are annually sworn into office." He also adds that the chapel was a military appointment, as other garrison chapels, and long a sinecure, and goes on to say that "Thomas Orde Powlett, governor of the Isle of Wight, has determined to revive the performance of Divine worship and rescue the chapel from those unhallowed purposes to which it has been too long applied."

The only plan of the earlier building is that attached to the 1583 survey of the castle, a plan made consequent on Sir George Carey's appeal to the Crown for more befitting lodging for the Captain of the Wight. It corresponds exactly with the present site, both as to length and breadth, and may be safely taken as the original plan of the chapel, as a recent excavation has disclosed a door in the north wall which is certainly of early thirteenth-century date. The east end lighting is rather unusual with its central pier, and we look for another window in the north wall, although the lack of light westward is somewhat compensated for by the two windows eastward. There is also indication of a screen about 18 feet from the east end, which must, if it existed, have destroyed the proportion of the chapel and dwarfed the sacrarium. On this plan the chapel building no doubt remained through the troubled times of the Civil War, the Restoration and the final overthrow of the Stuarts. As long as there was a garrison at the castle St. Nicholas served as the garrison chapel. Stuart cavaliers, Cromwellian pikemen and Marlborough musketeers must, all in their turn, have attended service in the old structure. But when more peaceful times came and soldiers were not a necessity to guard the castle, the chapel, with the domestic buildings, probably became neglected. That it was used in 1723 is evident from the fact that in the December of that year a marriage was solemnised within its walls between Mr. Wm. White, of Newport and Fairlee, and Anne, daughter of Captain John Imber, R.N., but it must, nevertheless, have got into a parlous state to need a rebuilding fifteen years later.

In 1734 Lord Lymington was appointed governor of the island, and he seems to have considered the desirability of improving the old chapel in the usual Georgian manner. He pulled down the walls to within 6 feet of the ground, filled in the floor 3 feet to bring it more to the outside level, and raised on the old foundation what can only be described as a barn with three windows in each side wall and another at the east end, dating his effort in the usual way, with stone tablets inscribed respectively G.R., 1738, and Lord Lymington, 1738. The west end was crowned with a turret, in which was hung a Dutch bell brought from the Horn, and the windows were divided up by wooden mullions. We now get a practically new Georgian chapel in 1738, where religious services must have been held, yet fifty years later there is a necessity for reviving the performance of Divine worship and rescuing the chapel from unhallowed purposes. This is a difficult matter to account for, and can only be taken as on a par with the general slackness of the Church of England during the second half of the eighteenth century. A picturesque view of the chapel is given as an illustration to "Beauties of England and Wales," 1800, and can hardly be described as a very accurate representation of the building. Deer browse in the foreground and a general Gothic feeling is given to the whole, more in accordance with the artist's fancy than the actual truth.

In the castle remodelling of 1856 it was deemed expedient to remove the roof of the chapel and convert it into a pseudo ruin—a gain, perhaps, from an artistic point of view, but hardly a right dealing with a building of historic interest, which for close on fifty years has remained with its shattered walls enwrapt in ivy, mutely appealing for better treatment. Architecturally it possessed no beauty, but as a shrine of bygone memories its conservation appealed to all educated minds, and a movement in favour of its restoration began to occupy the thoughts of a sympathetic public. In 1899, to mark the 250th anniversary of the death of Charles I., an influential committee was formed in London and a plan of procedure determined on. The sanction of the Government having been obtained it was decided to restore the ancient structure to its original purpose as a memorial of the imprisonment of the martyred king, under the direction of Mr. Percy Stone, F.S.A. The original early thirteenth-century entrance has been restored, and a porch erected at the west end of the north wall. The western portion is being divided off by a richly-carved stone screen, about 10 feet from the west wall, supporting an organ-loft; the organ, presented to the chapel by His Majesty the King, was lately taken from the Rolls Chapel, London. The seating in the body of the chapel will be placed east and west, giving accommodation for fifty persons. The whole of this, with the wall lining up to the window-sills, will be in oak obtained from the hulk of H.M.S. *Nettle*, an old man-of-war broken up in the Medina.

The windows are five in number, an east window and two in either north and south wall, the latter being of three lights outside, with a screen of four bays within, to get an effect of depth and richness. The east end is panelled in stone, with emblazoned shields of the Lords and Governors of the Wight, and will be divided from the body of the chapel by shallow buttresses. The floor of the sacrarium will be of marble inlay, that of the main building of terrazzo mosaic. The roof will be panelled in oak and painted with suitable emblems.

The two silver candlesticks and inlaid altar cross are from the private chapel at Osborne, forming the King's gift. A bronze and marble memorial to King Charles, in the centre of which is placed the beautiful bust of the king, presented by Her late Majesty, Queen Victoria, to the Castle Museum, is erected on the west wall, under the organ-loft.

LIVERPOOL INSTITUTE OF ARCHÆOLOGY.

THE second report of the Institute of Archæology, which has been formed in connection with the Liverpool University, shows that the committee are making considerable progress in their efforts to provide the means for a broad education in archæology. The report of the honorary secretary states that the staff has been doing good work, and important researches have been carried on. It is mentioned that Dr. Pincher has been at work upon some clay tablets from Asia Minor, and important results are anticipated, and that Mr. Percy E. Newberry has accepted an invitation, made possible by a gift of 1,000*l.* by Sir John Brunner, to prepare, in collaboration with Mr. Garstang, a history of Egyptian civilisation. Several gifts have been made to the Institute, and the general committee have agreed to present to the Liverpool Museum a wooden painted and inscribed sarcophagus of the twelfth dynasty, and a series of Egyptian antiquities discovered by Mr. Garstang. The hon. treasurer reports many donations to the funds of the Institute. The need of the services of a specialist in classical archæology, whose work should be intimately associated with that of the university, has been recognised by Mrs. and Miss Holt by a cheque for 900*l.* to be divided over three years. To this sum, on the prospect of securing a certain archæologist for the position, Mr. Alfred Booth and Mr. C. W. Jones have each offered a further 50*l.* a year for three years. A course of lectures on the "Story of Ancient Egypt" begin this week at the

Institute, Bedford Street, and is open by arrangement with the assistant secretary or the registrar of the university.

LIVERPOOL ARCHITECTURAL SOCIETY.

THE first ordinary meeting of the session was held on Monday at the Society's rooms, 13 Harrington Street. Mr. Philip C. Thicknesse, president, occupied the chair. The president, in his opening address, referred to the lamented death of Mr. Alfred Waterhouse, who, he said, was perhaps the best-known and most respected architect in England. The lesson he had taught them was to introduce colour into buildings, which in a city like Liverpool was difficult to obtain on account of the dirt which accumulated on materials which had a hard metallic surface. Architects should try to rectify this by putting as much colour as possible into their work. Professor Reilly remarked that architects were too fond of making use of uniform material, and not being irregular enough in their work. This resulted in the fact that they got hard designs, instead of the freedom they were all looking for. Mr. T. Eccles spoke of the good work done by Mr. Thicknesse during the last session, and congratulated the Society upon again securing his services as president.

The annual report says there is a continued increase in the membership of the Society, the Fellows now numbering 57 and the Associates 63, a total of 120 compared with 113 last year. There are 2 Honorary Fellows and 11 Honorary Associates. The number of students is 41, an increase of 5. In the death, which occurred on March 4, of Mr. Thomas Denville Barry, the Society has lost its last foundation member. Mr. Barry was one of nineteen who met at the Lyceum, Bold Street, on March 1, 1848, and passed the following resolution:—"That in the opinion of this meeting the establishment of an Architectural Society would be productive of benefit generally to the profession, and is therefore highly desirable." Mr. Barry himself seconded the subsequent resolution appointing the first executive committee. Mr. Barry read a number of papers before the Society, was elected president in 1872 and 1873, and was present at the dinner held in 1898 to celebrate the jubilee of the Society, when he made a speech. He commenced practice in Liverpool in 1845, but a few years later he removed to Norwich to take up the appointment of city surveyor. He returned to Liverpool in 1872, and continued in private practice until about seventeen years ago. He was in his ninetieth year. Mr. Barry was the architect of the Birkenhead law courts, the Unitarian church, Hope Street, and numerous churches and other buildings throughout the country. The education committee will award a certificate and 30*l*. to any member of the Liverpool Architectural Society under the age of thirty years who produces the best design for a Guildhall with committee-rooms on a site in the Old Haymarket, Liverpool.

ARCHITECTURE IN SOUTH AFRICA.

A PAPER was read by Mr. Wm. Lucas, vice-president of the Natal Institute of Architects, on the South African architectural problem, before Section G of the British Association.

In the course of his remarks Mr. Lucas stated that one colonial born should have the privilege of submitting some remarks to the British Association at its first Congress south of the Line was keenly appreciated. Perhaps more closely than any other function of humanity is architecture bound up with the life of the race; and amid strenuously utilitarian demands and limitations its story is being writ on South African soil. A few reminiscences of early settlement—the result of contact with the Dutch life of the seventeenth century—remain. Otherwise all is essentially modern, and a great deal of the earlier work is the joint product of professionals and laymen. With the exception of Johannesburg and Capetown, which in a degree remind of America, the phase of building is of British type, though expressing greater independence of thought. The absence of such educational institutions as Great Britain and America possess has some compensation in principals, staff and pupils being brought into closer touch with building operations, and in practice being concentrated on more limited areas. The geographical and social features of South Africa are most varied; and the infinite variety of clients necessitates a keen study of human nature and the utmost tact to incorporate many ideas into architectural design. The freedom of pioneer settlements and the absence of old-world restraints mean a significant loss of wholesome education, while the tendency of purely book and journal study is to give expression to peculiarities without the balance and scale that mark the originals. One result is the tendency for residences based on "Home" work to be too toy-like. The spirit of democracy with its conservatism in art matters accounts in a large measure for monotony of plan and design, with a strong trend towards tawdriness. The temper of semi-tropical environment reduces the need for the provisions that characterise the interiors of northern climes, though the fact of coloured domestic labour presents certain problems that have to be met, and especially in those latitudes with trying climates. The supreme demands are in the direction of tree planting, a keen regard for the face of nature, sheltered coverings for the enjoyment of tempered sunshine, bracing breezes and brilliant skies. Although the temper of the surroundings induces an eastern laxity and a desire for incessant change, the expression of the main ideas of Classicism and Mediævalism are as necessary in South Africa as elsewhere, in order that the public may be supplied with that mental essential that is no more a luxury to the mind than food to the body. A combination of the concentrated insularity of the Anglo-Saxon with the far-seeing daring life of the Dutch, especially in ecclesiastical architecture—association in religious views being close—would be of great service. With the ample resources at the disposal of South Africa in imported and local materials, and the scientific knowledge available, it is felt that there ought to be more extensive use of those materials that time and climate can enrich. While thankful for Bath and New Zealand stones, local stone should be far more in evidence and design be of more tempered severity. The accepted and extensive use of cement stucco makes restraint—the most valuable quality in architectural composition—very difficult to observe. There are, however, indications of stern struggle against surface effect, and some few masterly compositions may be seen even in stucco. It is felt that until there is a more general knowledge of the elementary principles of architecture through early education, and the widening of the area of intelligent criticism from the artistic standpoint, progress must be slow. Municipal control on the lines of certain cities of Europe and America, allied with professional advice, is absolutely necessary to control the type of modern progress, including that careless of all considerations save an inflated rent roll, and to prevent the ruination of the best residential areas. The character of buildings used as dwellings, regardless of nationality and colour, should be considerably raised. The absence of a collective impress, especially in view of the marked tendency in this direction in Great Britain, is very surprising. Individualism is, in fact, rampant, and even the output from the same mind and office is not necessarily coherent, creating an addition to the difficulties of the lay mind to comprehend architectural merit. Unfortunately, nepotism and social qualities (far more than is possible in older and more extensive communities), rather than merit, have much to do with the character of South African architecture. The public buildings, however, are generally the results of open competition, and more fully express the possibilities of quality and the extent of the hidden forces panting for their opportunity. But if architecture is to really succeed in South Africa, there must be the fullest acceptance of a code of honour to forego any commissions the execution of which would mean infidelity to one's convictions of the principles of design. Among the points that require accentuation is the development of man-power. To all associated with building operations it should be evident that the architect pursues his calling from higher than mercenary motives, and considers no labour too great to fully elucidate his wishes, and by frequent touch with work in progress show his pleasure in all efforts of workmen, of which South Africa possesses as qualified a body as can be found elsewhere. Hitherto architecture in this sub-continent has had little opportunity of expressing itself in the direction of its highest mission in fashioning the material temple of God, and aiding worship with the mystery of light and shade and colour. For South Africa to fully prosper, there must be in every principal centre evidences of the spirit of gratitude for the immense fortunes that have been and are still being made by association with the interests of this land. By imagination, inquiry and reflection humanity advances, and in the glowing sunshine the utterance of definite and harmonious messages to the mind and eye and heart of the multi-varied peoples of South Africa is the privilege of all engaged in the practice of architecture.

NOTES AND COMMENTS.

Although the construction of cars and trucks for the London County Council is outside our province, the tenders relating to that class of work which came before the Council on Tuesday deserve consideration. The treatment of foreign tenders by the Council will, we hope, be adopted as a precedent in cases relating to building construction. The Council required 150 electric cars, and separate tenders were sought for the car bodies and for the bogie trucks. A Hungarian company offered to make bodies for 58,200*l.* and the trucks for 13,800*l.* The tender of Messrs. Hurst, Nelson & Co., of Motherwell, amounted to 63,525*l.*, and the Brush Company, of Loughborough, offered to supply the trucks for 14,400*l.*, with an alternative tender for 17,400*l.* The highways committee reported that the Hungarian contractors were not prepared to accept the Council's conditions of labour. The work was, therefore, given to Messrs. Hurst, Nelson & Co. For the trucks the tender of Messrs. Mountain & Gibson, of Bury, amounting to 18,000*l.*, was accepted. The County Council have, therefore, departed from the policy which dictated the adoption of Belgian tenders for rails. The Belgian was no more likely than the Hungarian workman to receive the standard rate of London. The Free Trade maxims, of which the Council were supposed to be the principal exponents, are however found to be fraught with danger to the country, and we are therefore glad to find the County Council repenting, besides having the courage to adopt a more reasonable policy. One reform may lead to others.

The Town Council of Hove are supposed to be one of the most modern and advanced of corporations. Local architects would not be likely to agree in that opinion, although prudence compels silence on the subject. The latest instance of their manner of dealing relates to a proposed free library. In May they asked for designs for the building, of which the cost was not to exceed 10,000*l.*, exclusive of furniture. Premiums of 50*l.*, 30*l.* and 20*l.* were offered. A great many designs were sent in. It is believed there were no less than seventy. Now it appears that the Corporation declined to accept any of them on the ground of non-compliance with the conditions. Libraries have become so common of late that an architect must be very secluded and indifferent to what is passing who does not understand all the requirements of such a building. It is therefore incredible that so large a number of competitors should all fail in interpreting the conditions. It is a serious charge, and the designs should be exhibited in order that it might be seen how the error arose. It is possible that some people imagine that the excuse is no more than a way for evading the payment of the three prizes, and that a design will be forthcoming from one of the officials. But we can hardly believe that in so wealthy a place economy would be carried to such a length.

It is difficult to understand how the errors in the plans of the Colsterdale reservoir for the Leeds Corporation could have been passed. According to the chairman of the waterworks committee, there are 300 mistakes, 255 being of a serious character. An immediate consequence is that fifty additional acres of land have had to be purchased at an increased price. The Leeds Corporation must have obtained authority to borrow the money required; that means a public inquiry by an expert and an examination of the plans. Contractors are also aware of the risks of reservoir construction, and those who tendered would for their own protection scrutinise the plans. They would discover some at least of the 255 serious mistakes which are alleged to be found in them. A water engineer was lately appointed, and it is said that he declines to incur any responsibility for the new reservoir. Mr. Charles Hawksley and Mr. Watson are also supposed to disapprove of the arrangements. It is strange that among so large a body as the Leeds City Council, and more especially the waterworks committee, not one member was to be found who was able to realise that the plans were defective. Now they are making an outcry over blunders for which they should be held responsible. It is said also that the estimate of 300,000*l.* for the construction of a trench will be exceeded by 227,000*l.* The case calls for a Government inquiry, and under no circumstances should the waterworks committee be allowed to slink out of the responsibility for their carelessness and mismanagement.

The visit of the Bishop as well as of Dean Kitchin to Winchester Cathedral is enough to suggest that further revelations have come to light. Some months ago a crack was visible in the inside wall of the south side of the east end of the building, and the wall was found to be sinking. In order to ascertain how far the crack extended the floor near the wall was taken up, and a hole was dug for about 3 feet. It was then discovered that the breach in the wall became wider at a lower level, and if the excavation could be continued, would probably extend to the foundations, becoming wider as they were approached. The Mediæval masons, in spite of Longfellow, did not exercise the greatest care on the unseen parts of their buildings. The masonry at this part of the cathedral is of an inferior kind. To increase the difficulty one of the buttresses has ceased to be efficient. The cathedral authorities hitherto have underestimated the risks to the building. But they now realise that expensive works are inevitable and that the contemplated expenditure of 10,000*l.* will be insufficient to save the cathedral.

ILLUSTRATIONS.

THE LIVERPOOL AND LONDON AND GLOBE INSURANCE CO.'S NEW PREMISES, CORNHILL, E.C.—VIEWS FROM GALLERY.—THE HALL.

Interior views are given of these important new offices, which occupy a very prominent and commanding position at the junction of Cornhill and Lombard Street, E.C. On entering the general office, which is on the ground floor, its loftiness and the splendid light afforded become at once apparent, and it is here that the vast business of the Town fire and life departments is conducted. The counter, which is of solid mahogany, extends in the form of a semicircle, the approach being from a wide open vestibule on the Cornhill side, and the rows of desks embraced within the counter extend towards the great arched windows of the circular front of the building.

Besides the general office on the ground floor there are the Secretary's and Fire Superintendent's rooms and a waiting-room for the public. The staircase shown leads upward to the gallery or mezzanine floor, in which the Accountant's and Surveyor's departments are located, as well as the board-room and medical officer's room. Nor should mention be omitted of the Country department, for which ample accommodation is found on the lower ground floor.

The architect is Mr. J. Macvicar Anderson, F.R.I.B.A., under whom Messrs. Colls & Sons carried out all the work of construction. The fine marble columns and the marbles generally as well as the mosaics were supplied by Messrs. Burke & Co., whilst the Burmantofts Company are responsible for the decorative faïence work, which is eminently artistic. The electric-light fittings were supplied by Messrs. Belshaw & Co. and the heating arrangements by Messrs. Slater. The metalwork throughout is by Messrs. Shrivell & Co. and the parquet flooring by Messrs. Duffy. Mr. J. Williams acted as clerk of the works.

110 NEW BOND STREET, W.

NOS. 41 AND 43 WARDOUR STREET, W.

BUSINESS PREMISES, NOS. 6 AND 7 GEORGE STREET, W.

NEW HALL AND LOUNGE, OLD BANK HOUSE, LEWES.

KING EDWARD'S MANSIONS, AND THE PARADE, WALHAM GREEN, W

THE ARCHITECTURAL ASSOCIATION.

HE annual general meeting of the Association was held on Friday evening last in the premises at Tufton Street, Westminster, Mr. E. Guy Dawber, presint, in the chair.

Messrs. F. H. Atkinson and H. S. Sawyer were elected embers.

The President proposed the election of Mr. J. J. Burnet d the meeting with acclamation agreed to it. The ssociation had in its membership, said the President, e whole Council of the Royal Institute of British Archi:ts with one exception, and the one exception was in rlier years a member, so that the Association could conatulate itself on the support and recognition that was own to its educational work.

Messrs. P. L. Forbes, R. G. Elwes, A. C. R. Mackenzie d W. E. Monro were reinstated members.

Prize List, Session 1904-5.

A.A. Travelling Studentship, value 25*l.*, and Silver edal, Alick Horsnell. A.A. Medal, value 10*l.* 10*s.*, E. F. rry; hon. mention, F. Goldsbrough. A.A. Essay Prize, lue 10*l.* 10*s.*, and Silver Medal, A. E. Bullock. Andrew iver Prize, value 5*l.* 5*s.*, F. T. Bush; hon. mention, P. K. pps. Banister Fletcher Bursary, 1904, F. J. Watson Hart. nister Fletcher Bursary, value 25 Guineas, and Medal, H. Keys. Architectural Union Company's Prize, value *l.*, H. H. Whittington. A.A. Scholarship, value 5*l.* 5*s.*, R. Davy.

STUDIO.

Travelling Studentship, value 15*l.*, not awarded.

Division I.—Study of Old Work, volume of A.A. Sketch ok, F. T. Bush. Drawings and Sketches of Ornament, lume of A.A. Sketch Book, T. Braddock. Perspective, lume of A.A. Sketch Book, T. Braddock. Design, lume of A.A. Sketch Book, P. K. Kipps.

Division II.—Design, volume of A.A. Sketch Book, L. Dale. Ornament, volume of A. A. Sketch Book, G. Santo; commended, B. E. Atkinson and H. D. Ward.

SCHOOL OF DESIGN.

Elementary Class.—Prize, value Three Guineas and onze Medal, A. L. Snow; certificate, R. J. Casement.

Advanced Class.—Æq.: Prize, value 2*l.* 12*s.* 6*d.*, Bronze edal and Pass for Modelling Class, G. D. Round. Prize, lue 2*l.* 12*s.* 6*d.*, Bronze Medal and Pass for Modelling Class, ick Horsnell.

ORDER OF MERIT.—LECTURES. DIVISION I.

Greek and Roman Orders.—1. G. H. Yeoman (book ize). 2. *Æq.*: A. H. Brownrigg, R. J. Hill and P. May.

Elementary Construction.—1. C. R. Davy (book prize). 2. H. Yeoman. 3. A. J. Perrin.

English Architecture.—C. R. Davy (book prize). 2. P. ay. 3. L. L. Jeeves.

Mediæval and Renaissance.—1. A. H. Brownrigg (book ze). 2. W. H. E. Roberts. 3. L. L. Jeeves.

Elementary Physics.—1. C. R. Davy (book prize). 2. S. Cable. 3. W. E. Woodin.

Geometry.—1. J. B. Healing (book prize). 2. G. H. oman. 3. E. F. Morgan.

LECTURES. DIVISION II.

Materials.—1. T. S. Attlee (book prize). 2. V. G. nto. 3. W. A. Wilson.

Construction.—1. V. G. Santo (book prize). 2. G. L. exander. 3. S. H. J. Murch.

Drainage and Water Supply.—1. I. T. Sifton (book ize). 2. S. H. J. Murch. 3. T. S. Attlee.

Ventilation, Lighting and Heating.—1. I. T. Sifton (book ze). 2. S. H. J. Murch. 3. V. G. Santo.

Professional Practice.—1. *Æq.*: S. H. J. Murch and I. T. ton (book prize). 2. V. G. Santo. 3. J. R. Hobson.

Land Surveying and Levelling.—1. J. F. Schneider (book ze). 2. B. Oliver. 3. J. H. Dahl.

DAY SCHOOL.

First Year.—History and Construction Tests, E. Stanley ll (book prize). Freehand Drawing Tests, V. C. Batalhais (book prize). Prize for best work in Studio during whole Session, M. S. R. Adams (book prize). Master's ze for Essay, W. J. Jones (book prize).

Second Year.—Travelling Studentship, value 15*l.*, for dio work during session 1904-5, holiday work during ee vacations and general progress, W. W. Scott-Moncrieff. tra Studentship, value 5*l.*, for general excellence in studio holiday work, T. F. W. Grant. End of session test, ecial prize offered by Mr. Hugh P. G. Maule, Design for "A Village Hall," T. F. W. Grant; A. G. Blackford, H. I. Merriman, W. W. Scott-Moncrieff, bracketed second; A. N. Peckham, third. Prize for studio work and excellence in draughtsmanship, H. I. Merriman; honourable mention, R. C. Coulson. Evening Continuation School, prizes awarded to A. Welford, J. K. Ground, G. St. J. Makin.

The President's Address.

A year has passed since I had the honour of addressing you from this chair—a year that has not been without its effect upon our Association, as it marks the first session in our new premises, and puts the seal of success upon our endeavours.

Before proceeding further I must sincerely thank you for the honour conferred upon me in being chosen as your President for a second year. The office is no light one, and the responsibilities and anxieties are great, yet it is a labour of love, and one that I feel sure no one amongst us who has the welfare of the Architectural Association at heart would wish to shirk. I would also take this opportunity of very cordially thanking my colleagues on the Council, and the secretary and his staff, for their kindly help and consideration, without which it would have been very difficult for me to have carried through the work of the past session.

To the retiring hon. secretary, Mr. Louis Ambler, our thanks are due for the unremitting attention and zeal he has shown in the service of the Association, and also to Mr. Francis Hooper, our hon. treasurer, who retires from the editorship of "A.A. Notes," a post which he has so ably filled since March 1903.

I hardly think that the general body of members realise the amount of business and work that has to be done in connection with the Association. This has largely and inevitably increased with the carrying out of our educational programme, and is being dealt with in a manner most creditable to all concerned.

A year ago we congratulated ourselves upon entering into these new buildings, and I ventured to predict a brilliant future for the Architectural Association on this important turning-point in its career. This is being amply justified, for not only are we well established in our new home, but our membership is still increasing and our various schools and classes are in a sound and healthy condition. All this is particularly pleasing, but we may congratulate ourselves yet further, for the burden of debt that hung around us a year ago in connection with these undertakings is being rapidly cleared away, so much so that the Association may look forward in a short time to being free from any pecuniary liabilities.

At the commencement of last session we were not in a position to ascertain our exact indebtedness, as the various accounts were not then obtainable, but we now know that the cost, including all legal and incidental expenses in connection with the new premises, has been 10,240*l.* 9*s.* 10*d.*

As you know, a generous friend made an offer of 1,000*l.* provided our debt was cleared off by the end of last session, and although we were unable to do that, I had the privilege of announcing at our annual dinner in May last that this conditional offer had been converted into a gift, and it gives me further pleasure to tell you that we have received this 1,000*l.* and that our generous friend is Mrs. Arthur Cates. It was a kind and graceful act on her part, and I feel sure the Association will join with me in giving our most sincere and hearty thanks to Mrs. Cates for her donation. In addition to this, since last October we have had promised and actually collected no less than 1,961*l.* 19*s.* 11*d.*, including a grant of 527*l.* 1*s.* 3*d.* from our general fund, reducing our indebtedness at the present moment to the comparatively small amount of 1,019*l.* 12*s.* 10*d.*

Gentlemen, this is a record to be proud of, and one that is worthy of the energy and perseverance of the Architectural Association. It speaks most eloquently for the *esprit de corps* that exists in our profession, for it was no light matter for a body such as this, without either official or State recognition, not only to embark on such a scheme, but to attempt to raise so great a sum of money.

All anxiety, therefore, as to the Association continuing its work under a burden of debt may be dismissed from our minds, and to no one, I feel sure, will this be more gratifying than to our old friend and past president, Mr. W. Howard Seth-Smith, to whose initiative and enthusiasm the scheme was very largely due. It is not my intention during the forthcoming session to make any further appeals, as I am convinced the members of the Architectural Association will themselves see that so small an amount is cleared off.

During the past year we have lost by death an unusually large number of members, no less than fifteen, amongst them being two past-presidents, Mr. Thos. Blashill and Mr. John Norton, who, with Mr. C. B. Arding, our oldest member, and Mr. C. Forster Hayward, had all belonged to the Association for upwards of half a century; also Mr. J. K. T. Colling, who was hon. secretary as far back as 1850. Only a few weeks ago the profession deplored the loss of Mr. Alfred Waterhouse, who had been a member since 1866. He was one of our most distinguished members, who took a deep interest in our work and progress to the close of his life. We have also lost Mr. John Leaning, our former lecturer on quantity surveying, and Mr. W. Aston Jones, who was one of the assistant masters in the day school, and Mr. Francis W. Bedford, whose untimely end we all regret, as he was an architect of culture and wide views, and one putting his mark upon the work of the day. But although this is a sad record, on the other hand we have much that is pleasurable to dwell upon. First and foremost, we all delight in the honour that has been so worthily bestowed on our past-president, Sir Aston Webb, R.A., about whom in this room it would be quite unnecessary for me to speak.

Mr. John Murray, one of our vice-presidents, has been appointed surveyor to the Crown, so that all who meet him in his official capacity can look forward to sympathetic treatment at his hands. Hardly a week passes but the professional journals announce the success of one or other of our members, and it would not be an exaggeration to say that with few exceptions nearly all of those who are doing good and thoughtful work are either members of the Architectural Association or have been in the past. Notable amongst those who have gained distinction during the past year are Messrs. Lanchester & Rickards, Messrs. W. A. Pite & Balfour, Mr. Hare, Mr. Arnold Mitchell and Messrs. Warwick & Hall and others too numerous to mention.

The success of the day school, under Mr. Maule and his assistants, has been phenomenal, and the work that is being carried on there is a source of real gratification. The opportunity students have of obtaining a grounding in the rudiments of their work, a direction in the right path of learning, is of incalculable benefit, and it would, indeed, be a great advantage to those whose future lives are cast in the provinces if they also could reap the benefit of these classes and undergo a systematic training before returning to take up their labours in the country. It would enable them not only to enjoy the companionship of their fellow-students, but to gain knowledge that would never be forgotten.

The Board of Architectural Education, as you know, have within the last few months formulated a syllabus and report upon architectural training, which doubtless will be adopted by all the recognised institutions throughout the country.

I cannot sufficiently express my opinion that this is by far the most important step towards the advancement of architectural education that has ever been taken, and it must be a source of great satisfaction to all interested in the practice of architecture and particularly to the founders of the day school.

The Association has readily acquiesced in the recommendations of the Board, whose syllabus agreeing very nearly with that followed in the day school has been adopted, so that our own system of training now co-ordinates very closely with others, yet maintaining absolutely its individuality as a school, which is the primary object of the Association. Sir Aston Webb and Mr. Basil Champneys have been appointed visitors, a selection that is particularly pleasing, and can but result in the prosperity of the school, as both are in sympathy with our ideas and methods.

The Council of the Royal Institute of British Architects, on the recommendation of the Board of Examiners, has resolved that the drawings done by students in the day school during the first and second years may be submitted by candidates for the intermediate examination, instead of the usual testimonies of study, and eventually we hope that our students who have completed the four years' course in the day and evening schools may be exempted from passing the intermediate examination on the same lines as at Liverpool and elsewhere.

And here I would wish again to express the thanks of the Association to the Royal Institute of British Architects for their generous annual donation and great interest in our educational work.

Last session we established an evening continuation school, under the mastership of Mr. T. Frank Green, for the purpose of enabling more of those students who had passed through the two years' course and had entered offices to carry on their work without intermission. Th experiment was thoroughly successful, though naturally th numbers were limited. This session, however, we expe to do much better and to make this course, which is indispensably an adjunct to office training, one of our mo important ones. Now, I venture to think that is a goo deal to have accomplished in one year, and is gratifyin evidence that the educational work of the Association recognised as a very important factor in the architectur training of the country.

The studio work—the real foundation work of th Association—has also done well under our old friend, M Lewis, but several of the other classes have not met wit the support they should, notably the modelling class unde Mr. Pomeroy. This is to be regretted, when it is considere how essential it is for students to study the use of ornament, the drawing and proper disposal of which is mos important to architects. Some day I trust the Associatio may be able to establish a class for drawing and modellin from the life, which is an invaluable aid to learning propo tion.

The advanced and elementary classes of design als have not been so well attended, although the quality of th work done was extremely good. The cause may be tha either the subjects set are too large and discourage student at the outset, so that they give up altogether, or, perhap that so much time has to be given up to the preparation o the Institute testimonies of study that all leisure is occupie

I feel that it would be better that such subjects shoul be selected as could easily be dealt with by students in th time at their disposal, and that they should be set by th visitors who will eventually criticise the designs. Thes classes are of such great value in enabling students t benefit by the help and advice of some of the best architect of the day, that it seems a pity more do not take advantag of these opportunities, and I hope that the changes indicate which will be carried into effect this session, will result i a return to the time when these classes were very popular

It is a matter for regret that only one competitor cam forward for the Association Travelling Studentship, as thi makes it dull both for the Association and the student. I is such an admirable prize, and the work that has to b done is evidence of such all round knowledge and efficiency that I trust in future it will be better competed for.

The whole teaching of the Association is becoming s widely known that it is already a recognised practice fo students from New Zealand, Australia and the othe colonies who come over to this country to become member in order to further their education.

On the other hand, it has not been possible to do a these things without some few detractors, and there are critic who decry our work and say that the Association has n right to launch out into these large educational scheme They urge that the old feeling of comradeship is bein swamped under this new *régime*, and that we are becomin merely an educational machine, quite different from th original idea of its founders.

Well, gentlemen, to some extent, perhaps, this may b so, and when the Association numbered some few hundred unquestionably this idea of mutual help and teaching carrie on by its own members was admirable and worked wel There can be no doubt that it tended to bind the student of those early days together and fostered a sense of goo fellowship that, in some degree, may be absent to-day. Bu every other profession is pushing forward on the road o knowledge and giving greater educational facilities for it students. It is not, therefore, a time for architecture which has so lagged behind in the past, to stand still an see other institutions outrival it in the field of education.

With our membership nearing two thousand, the Association had to face the altered condition of things, and if i meant to hold its own as an architectural training-groun the establishment of a systematic and definite curriculum as now taught in our schools and in the studio, appear only the natural outcome and development of the origina classes. But, on the other hand, the danger to guard agains in all education is in making the training stereotyped an cut and dried, and, as a consequence, turning out larg bodies of students whose ideas and methods are formulate into one set channel and whose after work must, therefore suffer from a cramped and too academic training. It canno be sufficiently understood that the scheme of educatio established by the Association forms only the basis an foundation upon which the student himself must build u the superstructure of his own career and individuality. I would be a mistake if, in making a student's work plain an for him and in giving him all these advantages, people ld imagine he has only to go through these courses, and his architectural training is complete. Such an idea ld be most unfortunate and entirely at variance with aims of the Association.

t is essential that students should realise that it must upon their own individual efforts and independent ies they must rely in the future, and that it is this very pendence of outlook and thought which has given the ngth and character to our national architecture of which are so rightly proud.

Many of the greatest architects of the past generations, , indeed, of this, have had no special training or lities, but have relied upon their own efforts, on self-cation, travel and observation, combined with a keen stic insight and conception, and I would earnestly im-s upon all our members who pass through our classes schools not to relax for one single moment their rtions and work in after years.

It seems to me that with the establishment of these ols of architecture throughout the country during the t few years, a heavy responsibility rests upon the ters who have the training and supervision of those pass under their hands, and that unless a student has stinct aptitude and real love for the art of architecture, ess in fact it is the be-all and the end-all of his life, that the y of those in authority should be to discourage his going her with it. How many there are who find after years hard work and keen disappointment that they have sen the wrong career.

Architecture is the noblest of all the arts, just as it is mother of them all, and unless one is prepared to ifice everything in pursuance of that art, it is better not ttempt to follow it.

An architect to a great extent must combine two quali-—qualities that are generally considered impossible to together in one individual—the artistic and sensitive perament of the artist with the orderly and common-se methods of the man of business. The latter must be r present to restrain those flights into the realms of eality in which the former may be tempted to indulge. cess in most occupations depends largely on efficient anisation and management—that is to say, on a due tion of each part to the rest. In architecture this is ecially true. It is an art which is dependent for its ression on the ability of the artist to work and obtain results, through co-operation with his employer. eed, architecture is, to a certain extent, more capable of ng judged by common-sense methods than any other This is doubtless the reason why common-sense people other professions often think they would make better hitects than those they employ. The general public are re apt to look upon architecture as a business than as an partly because it is ruled more or less by common-se principles, and partly because the accepted method payment is more businesslike than artistic. A time y come when this will be changed for a scale of charges re in accordance with a man's standing and reputation is profession, but this is neither the time nor place to l with such a subject, and meanwhile we must accept tters as they are.

We associate directness and the power of quickly sping a difficult situation and dealing with it with the lities that go to make a good man of business, and vhere are these qualities so necessary as in the work of architect, which, above all things, must be practical.

I would urge all those who are in offices to try and learn they can about the routine and working of everyday iness, not to be content with good draughtsmanship and preparation of drawings only, but to find out all that y possibly can about specifications and materials and all h as appertains to the practical side of their work. Do regard these as dull matters of routine that may be gated to others afterwards—the success of your work fter life will depend very largely upon your business wledge, as well as upon your artistic capabilities and tincts.

The office, after all, is the workshop, and however much t may learn at classes and lectures, it is in the office that actual work is carried out and where you will acquire t knowledge which is absolutely essential. It has been d, and I think rightly, that an architect learns more ing the progress of his first commission than at any er time in his life, for here he is brought face to face h difficulties and problems that he must solve for self.

From the commencement of the building almost countless practical problems have to be decided by him, and the most trifling defects can produce mischief. Every day he has demands made upon his judgment, and he must act impartially to the man who has engaged him and the man who is carrying out his instructions. To him also will be entrusted the expenditure and control of large sums of money, so that, without practical knowledge and some business training, unfortunate results in the way of extras and litigation are bound to follow.

In the management of accounts, in keeping a constant check and supervision of expenses, it is obvious that in his client's interest an architect must be a careful man of business. Not only so, but in the artistic side of his work, in the arrangement and disposal of the plans and elevations of his buildings, the business quality will again make itself felt. It would be an admirable thing if for some months you could get on a building, under some capable clerk of works, and see the work carried on from day to day. In this way you would have an opportunity of watching the drawings you have previously been engaged upon being translated into actual brick and stone. This would give you self-reliance and confidence in your judgment, and accustom you to the decision of everyday problems.

Many of us this year have viewed with considerable interest the attempt made at Letchworth to solve the question of the better and cheaper housing of the working classes in rural districts. It does not seem to have been entirely successful, and it is open to question if much real progress has been made towards a solution of the problem.

The main idea and principle governing all good design, both in plan and elevation, is suitability for its purpose, and here too frequently no inquiry seems to have been made by the designers as to the mode of life and the requirements of the people for whom these cottages were primarily intended. Only an intimate experience of the working classes, their needs and habits and casts of mind, can enable any architect to cater for them rationally and well; indeed, without a thorough acquaintance with the requirements of one's clients, it is difficult for an architect to produce a satisfactory building. But in other ways the exhibition is instructive and interesting, as showing that, after all, the cheapest and best buildings can be erected in brick and tile and of the natural materials of the country, and also as evidence of an endeavour on the part of architects to deal with the multiplicity of newer and cheaper materials in an artistic and yet sensible manner; and though many of these do not lend themselves at present to a very sympathetic treatment, yet much has been attained in that direction. In using new materials an architect has to be more circumspect than his predecessors, and he has to discriminate in their use, as in adopting any of them he assumes responsibility for their good qualities.

I feel that all our members would do well to visit Letchworth and study the buildings there from a practical point of view.

The exhibition, an outcome probably of the strong feeling aroused by the building by-laws in country districts, is most interesting and instructive, and, moreover, is evidence of an awakening interest on the part of the public, however tentative, in the restrictions and conditions under which architects are sometimes obliged to carry out their work.

Last year, in this room, I drew attention to the manner in which some of the new buildings in our towns and cities were treated, often entirely from the commercial point of view and without any regard to their position and the dignity of their surroundings. The subject, though not in any way new, aroused much interest, and has been frequently referred to since, and now that such a large portion of London is being almost rebuilt, the public, through force of circumstances, are obliged to notice what is going on on every side.

People in general are inclined to shift the responsibility for this condition of things upon other shoulders and blame the architects. They say that the fault rests entirely with them. Unfortunately, until the public are induced to appreciate the difference between good and bad architecture, and are urged as citizens to take a pride in the beautifying of their cities, so long will this indiscriminate disfigurement of our streets and thoroughfares continue. Familiarity, as you know, breeds contempt, and it also breeds indifference, and the public have become so accustomed to accepting certain things they see around them as being necessarily ugly, that it does not occur to them to consider why they should be so, or whether they could not be otherwise.

The long monotonous rows of jerry-built villas at seaside resorts or on the outskirts of our large towns, the pretentious and vulgar houses, jarring with and spoiling the old-world charm of our country towns and villages, our railway stations, workhouses and factories—all these things they accept as a necessary evil and as part of the so-called progress of the age, just as they do the increase of rates and taxes. And when we consider the matter seriously, what encouragement is ever held out by our press or art critics to induce the public at large to take the least interest in this—the noblest and oldest of the arts?

If we turn to our newspapers or magazines we constantly find criticisms of pictures and paintings, often with interesting details of the work of the artists; but if we read of the opening of any building, or the consecration of any church, the architecture, or even the name of the architect, is barely or seldom referred to. In the annual notices of the work at the Royal Academy the reviews in the papers stop short with a perfunctory notice of the sculpture, and never refer to the architectural designs or drawings at all. It has been truly said that the English as a nation "see with their ears," and the view the general public take of art, at the present moment, is entirely due to what has been written and published about it, and if no reference to, or intelligent criticism of the enormous number of new buildings is ever made, how it is possible for the public to know what is good and what is bad?

There is no doubt that exhibitions both public and private have done much to popularise the arts of painting and sculpture—indeed, in the minds of many people, art is only associated with the contents of our picture galleries and museums. That, in the form of architecture, it should help to elevate and ennoble the lives of the dwellers in our towns and cities never seriously occurs to them.

In our galleries, as you know, the actual finished works are shown—the pictures painted and completed by the hands of the artist. The representations of architectural buildings, however, convey to the public but little idea of the actual buildings themselves, and as no attention is ever drawn to them it is not surprising they receive no regard. When it is realised that the street is the architect's picture gallery, and that when he erects a building in a public thoroughfare, country road, or wherever his commission may lie, that his work is on exhibition not for some few months, but for years to come, then I think the architect will recognise the responsibility of his task, and the public, if their attention is drawn to its good or bad qualities, will soon begin to take an interest in and criticise the work. Not that they do not criticise, and freely, too. This, perhaps, to thoughtful men is the most disheartening and unsatisfactory part about it, for people who would be dumb before a picture or piece of sculpture let loose with the assurance of absolute ignorance the invective of their opinion on architecture, quite regardless of whether they are right or wrong.

Indeed, the standard of taste in this country with regard to architecture is such that often a really fine and dignified work passes unnoticed, or merely excites ridicule, because it is unusual and not in accordance with the popular taste.

It cannot be urged that the architecture of to-day is beneath sound criticism, or suggested that the large body of men who are engaged in the art are all incompetent and build what is unworthy of admiration. Such would be unjust and absurd, for we know that at the present time work is being done in this country, not only in architecture but in painting and sculpture and the subsidiary arts, that not only holds its own with, but surpasses, that of other nations.

Again, it cannot be that the public are altogether indifferent to architecture, for the veneration and regard in which our cathedrals, churches, old castles and houses are held is evidence to the contrary—a veneration and admiration created and fostered by the halo of historical sentiment that has been drawn around them by our poets and writers of all ages.

I think we must, therefore, acknowledge that the lack of appreciation of architecture in this country is due not to apathy or indifference, but simply to want of knowledge.

On the Continent it is the custom for the architect to sign the buildings which he has designed and erected, and I cannot help thinking that if this were done in England it would tend to make architects more careful of what they produced, as they would then have to stand or fall by their works. This would naturally be unnecessary in every instance, but if an architect felt he had produced a buildi worthy of his art, I cannot see why it should be co sidered in any way derogatory to his calling for him sign his work, any more than in the case of the painter sculptor.

If this were done generally it would possibly tend raise the quality of our work, and would in time arouse t interest of the public. But if we wish to produce archit ture that is worthy of admiration, it is essential that should educate and train ourselves, and spare neither ti nor energy in the study of our art.

The outlook of architecture in this country at t present time was never brighter, for a large section of t public are becoming more appreciative and discriminati and the number of brilliant and thoughtful men who a devoting all their time and enthusiam to their work is da by day growing rapidly larger, and the Architectural Ass ciation is one of the foremost bodies in contributing to the ranks.

If we expect the public not to be indifferent to archite ture we must produce work that is noble and beautiful, an though at the time it may not be appreciated at its fu worth, yet our efforts directed in this spirit will most sure help forward the realisation of that standard which it mu be our ambition to reach.

Our chief concern, gentlemen, must be to keep steadi in view the nobility of our craft. It is one which should b incompatible with low ambitions and ideals. There always the temptation which we share with other callin to subordinate our work to inferior ends and commercial co siderations. Let us lay it to heart that in a high conceptio of our art lies the best protection against this dange There is a wide field open to originality and wise adaptatio in architecture to-day, for the possibilities of progress ar never closed in any department of life, and, howeve glorious the architectural heritage bequeathed to us may b there is always an opening for further advance. The trues reverence for the past rests in the conviction that it may b improved upon.

As I have already pointed out, our work is on continua exhibition before the public eye. How far this ope picture gallery is to win for architecture increasing respe and recognition, how far it is to become more and more a effective means of educating and quickening the publi taste, will depend largely on the high view we take o the obligations of our art, and it is to create and sustain thi high view that the Architectural Association, over which have the honour to preside, exists and works.

Mr. Leonard Stokes, in proposing a vote of thanks t the President for his address, referred to the progress mad by the Association during the past session. The debt o the new premises, he said, was vanishing in a most extraordinary way, and that happy state of affairs was largel due to Mr. Dawber's efforts, aided by the secretary, M Driver, who was indefatigable. Their sincere thanks wer also due to many kind donors, and in particular to Mr Arthur Cates. In spite of enormous defects, the buildin after all was not unsuitable for their work, and they migh feel justly proud of it. There were some who regretted th past days of the Association and the good-fellowship whic they imagined then existed, but surely, he said, the presen offered many more opportunities for good-fellowship. Ha they ever such premises and the facilities for studyin fine examples of old work, represented by casts in th museum? Had students ever before such opportunitie for intercourse? Altogether, he was inclined to believ there was just as much good-fellowship among the member as there ever was. The old system had altered a little, bu the new system had many advantages. Mr. Maule, in th day school, had shown remarkable results with his pupil and the benefit of such training would be felt by the profession generally within a few years. Drawing, howeve was nothing compared to the other attainments required i an architect. It was all very well for the student to lear to make two lines meet, but that was not what he had to d in building; he had to turn round corners and fin his calculations were correct when he got to the poin agreed upon. He would wish the young student to think of their drawings as if they were for rea buildings and to master the business and routine in th same earnestness. Reference had been made to the Boar of Architectural Education, and as a member of that Boar he could testify to the enormous amount of work entaile in the formulating of a syllabus for architectural trainin They had been able to issue a report, and the conclusion he believed would be for the general good of the professio

There had been so many mistakes in architectural education in the past that the Board found some difficulty in drawing up a recognised scheme, but they found that the course adopted by the Association was about as good as it could be, and if the past record was maintained the Association would do much for the future of architecture.

Mr. John Murray, who seconded the motion, said he felt the address was so true that it was above criticism. There was encouragement too in the President's remarks, and it would be well if younger members of the profession realised the educational opportunities offered by the Association. The facilities for study would bear fruit, and the future would see better architects and better architecture in this country.

Mr. Louis Ambler and Mr. E. T. Hall supported the vote of thanks, and the meeting then terminated.

TRANSVAAL INSTITUTE OF SURVEYORS.

Although the Institute of Surveyors for the Transvaal can claim to have only a couple of years of existence, it is already one of the most important societies in South Africa. The following annual report will suggest not only the efforts of the Council, but also the character and aims of the Institute :—

As a matter which intimately concerns the members of this Institute, your Council thinks it should make mention of the change which has taken place in the office of the Surveyor-General. Lieutenant-Colonel Jackson, R.E., who resigned the office in order to take up important work on the contemplated topographical survey of the Transvaal and Orange River Colonies, during the time of his occupancy of the chief position won the respect and esteem of the surveyors by his tactful and kindly disposition, and his readiness at all times to lend assistance and give advice to all who had occasion to transact business with him, and in particular this Institute owes him a debt of gratitude and thanks for the sympathetic aid he willingly rendered from the inception of the movement to obtain corporate existence until the final establishment of it. The Government appointed as his successor Mr. W. H. Gilfillan, and it is a matter of congratulation to the profession that a gentleman so well qualified to fulfil the important functions of Surveyor-General, and one so highly respected and so well known, was available to fill the vacancy. It is also gratifying to know that the Government were able to give the appointment to a South African, a circumstance which cannot fail to give satisfaction to local sentiment. Your Council, as instructed at your meeting last year, immediately after taking office proceeded to take the necessary steps for obtaining the sanction of the Lieutenant-Governor to the by-laws which were passed at that meeting. In order that these by-laws should be drawn up in due legal form and be in harmony with the terms of the Act of incorporation, they were submitted to the solicitors of the Institute, who drafted and arranged them in the form in which they were finally approved by the Lieutenant-Governor and published in the *Government Gazette*. As was to be expected, the experience gained by the year's work and under these by-laws has shown the desirability of some amendments and additions, and it will devolve upon the new Council about to be elected to take this matter into consideration and call a special meeting as provided by the by-laws for the purpose of dealing with it.

Arising out of the by-laws was the matter of articles of clerkship. The solicitors were asked to submit a draft of articles, which in due course were thoroughly considered by the Council, and in their final form were circulated to members. It is not essential that the form of articles recommended by the Council should be adhered to, but it is submitted that for the majority of cases the articles will be found satisfactory and sufficient. It will be in the recollection of members that the surveyor-general (Colonel Jackson) drafted an amended Survey Ordinance and set of instructions to surveyors. The instructions were issued after your Council had had an opportunity of expressing its views on the proposed regulations, and of submitting such amendments and additions as in its opinion seemed desirable. The instructions as finally issued, although embodying many of the recommendations of the Council, nevertheless contain many provisions which, in its opinion, are unworkable, and which, while adding materially to the work of surveyors, make no provision for the payment of such additional labour. The draft amended Survey Ordinance has not progressed beyond its initial stages. Your Council devoted much time to the discussion of this draft, and prepared many amendments with the view of bringing them to the notice of the Surveyor-General ; but as it was informed at a later stage that the draft on which it had been working was to be redrafted, and that surveyors would be given ample opportunity of expressing their views on the redraft, no further steps were taken.

During the last few days the present Surveyor-General has circulated an amended code of instructions for the criticism of surveyors. These will be dealt with during the new year of the Institute by individual surveyors and by the Council, and occasion will no doubt be taken to thank the Surveyor-General for his courtesy in giving the profession an opportunity of consulting with him on the proposed regulations. It is highly desirable that every surveyor should carefully consider these draft regulations and co-operate in the framing of as perfect a set of instructions as it is possible to obtain.

The subject of the admission of surveyors has been carefully considered and discussed on several occasions, with the result that a resolution will be submitted you on the subject during the present session for your decision. Your attention has doubtless been drawn to the fact that the contemplated topographical survey has been indefinitely postponed. The great utility, however, of such a survey will doubtless cause the Government to consider the practicability of carrying it through to completion at no distant date. Members of this Institute cannot, however, be unconcerned at the implication that it requires a "highly trained staff" from without to carry out such a survey satisfactorily, and your Council feels strongly that the work would be more quickly, at least equally satisfactorily, and less expensively carried out by the surveyors of this country, and have addressed a communication on the subject to the Surveyor-General in the hope that when the matter again comes up for discussion before the proper authorities he may be able to press the claims of the surveyors registered in his own office to the consideration of the Government.

It is with regret your Council has to report that they have been unable to complete the compilation of a comprehensive and satisfactory tariff for the guidance of members ; nevertheless much progress has been made in this direction. The principle adopted as the underlying basis on which such a tariff should be laid down is a fair and reasonable price for surveys of ordinary character under ordinary conditions, as it was felt that no tariff could provide for exceptional cases, and that such cases could only be dealt with by the surveyor concerned. Whilst there is no legal obligation for any member to use a tariff such as is contemplated, the principle was laid down by a former general meeting that it was desirable that the Institute should have a recognised standard of charges for the guidance of members and for the satisfaction of their clients. A draft tariff was circulated to members for their remarks and suggestions in the latter part of last year, but the results were disappointing, as only about twenty-five surveyors took the trouble to make suggestions. After further lengthy deliberation the Council appointed a committee of four to draw up another tariff, taking into consideration the suggestions received. Two Pretoria surveyors and two of Johannesburg were appointed. These gentlemen worked consistently hard, spent a great deal of time in correspondence with surveyors, and finally submitted the result of their deliberations to the Council, which devoted several sittings to the consideration of the tariff. It is once more in the hands of the committee for final drafting for circulation to members. The remarks, criticism and suggestions of members will again be solicited, and it is hoped the final result will prove satisfactory to all concerned.

Application was made to your Council for admission as a member of the Institute by a gentleman who had obtained a license as a surveyor from the Collector of Revenue. He had, on the strength of the said license, advertised himself as a licensed surveyor. Your Council, having ascertained that the gentleman in question was not an admitted surveyor, of course refused the application for admission to the Institute, and took the occasion to point out to the applicant that his advertisement might mislead the public, and that if he signed diagrams steps would have to be taken to prosecute him under the Survey Ordinance. The Surveyor-General was informed of the matter, and it is understood instructions have been issued to the Receiver of Revenue that licenses may only be issued to surveyors to practice in accordance with the Surveyors' Admission Ordinance.

The Central South African Railways having occasion to appoint one or more surveyors to carry out certain work in connection with the expropriation of land along their lines of railway, issued invitations to a number of surveyors to send in a price for doing the work specified. Some of the recipients of these invitations, regarding the manner in which the Central South African Railways had asked for prices as virtually calling for tenders, referred the matter to the Council of the Institute for a ruling. The Council, after interviewing the railway authorities, found that there was no justification for the view that tenders had been called for, and in order to place surveyors on a more equal footing as regards work given by various governmental departments, communicated with the Surveyor-General on the subject, suggesting that all governmental work should be given out through the Surveyor-General. It appears, however, that the Railway Administration was responsible to the Inter-Colonial Council, and not to the Transvaal Administration, and was unable therefore to accede to our wishes.

Members are aware that an arrangement was come to with the authorities of the C.S.A.R. that surveyors should be permitted to carry their instruments with them in the carriages whilst travelling on the railway. This was a concession of the greatest convenience to surveyors, for which every member is grateful. It appears, however, that there is grave danger of the privilege being withdrawn owing to the abuse made of it by some member or members of the Institute, who, by insisting on carrying bulky and heavy luggage into the carriages, have unduly blocked up their compartment to the great inconvenience of others. The railway authorities have communicated with your Council about the matter, intimating that if surveyors do not make reasonable use of the concession there will be no alternative but to withdraw it. It is hoped that all surveyors will in future be careful not to abuse the privilege referred to, and in order that station-masters and other railway men as well as surveyors may know exactly what is meant by reasonable luggage in this connection, the Council is communicating with the railway authorities with a view to having it defined.

Your Council having been informed of the intention of the Government to introduce a Bill dealing with weights and measures, some of the provisions of which were directed to the alteration of the land measure of the country so as to make Imperial land measure applicable to the measurement of land, though providing the option to use the metric system or Cape measure, immediately placed themselves in communication with the Law Society and the Town Council of Johannesburg, which it was understood was principally concerned in the promotion of the Bill. It was pointed out by your representatives that if the provisions referred to became law, great confusion would be occasioned, leading to innumerable errors in documents relating to land, and that whilst surveyors would prefer the metric system, they considered the time inopportune for making any change, and that the time to change the land measure would be when the metric system was introduced generally. The Bill further provided for the assizing of surveyors' tapes and for the keeping of standard yards by the Colonial Secretary. After much deliberation the Town Council resolved to recommend the Government to amend the draft ordinance as suggested by the surveyors. The Law Society and your Council also made representations independently to the Government on the subject. It is therefore hoped that the land measures may remain as at present until the time arrives for the general introduction of the metric system.

The matter of commissions paid to agents for securing work for surveyors was brought up before your Council for a ruling on the point as to whether such a practice was permissible or not. A circular embodying the decision of the Council was addressed to every member, pointing out that payment of commission in this manner was tantamount to sharing fees, and was therefore in conflict with the Survey Law. This decision does not apply to the payment to a collector of the usual percentage on the collection of accounts. It is to be hoped surveyors will resolutely set their faces against any attempt to extort commissions for bringing work, and that any case of such having been done which may become known to them will be reported to the Council as a duty.

The attention of the various scientists and technical societies of this colony having been drawn to an application by the Philosophical Society of Capetown to the Privy Council for a charter for a royal society, to be called the Royal Society of South Africa, a meeting of delegates from each society, including this Institute, was held, and a protest lodged against the granting of such a charter on the ground that the Philosophical Society of Capetown could not claim to speak for the whole of South Africa, including the Transvaal, and that in any case they could not agree that membership of such a society should be conferred indiscriminately on all and sundry who might happen to belong to the Philosophical Society of Capetown. The effect of the action of the Transvaal societies has been to delay the decision of the Privy Council on the matter. In the meantime negotiations have been passing through His Excellency Lord Milner and Sir David Gill between the Capetown Society and the Transvaal societies, with the object of arriving at a solution of the difficulty which may be satisfactory and meet the views of all concerned. Since the meeting of the British Association further progress has been made in this direction, and it is hoped the final result will be the establishment of a Royal Society for South Africa, which will develop into a scientific body worthy of its great prototype in England.

It has been a great disappointment to the Council that lack of funds prevented the publication of the *Journal* at the regular intervals as originally intended. The extreme dilatoriness of members in sending in their subscriptions has been responsible for this. It has only been possible to bring out one number, but it is hoped there will be no difficulty in the future in issuing the *Journal* regularly. Matter highly interesting and useful to surveyors is forthcoming in sufficient quantity to make your Council believe that there will be no difficulty in finding matter to fill the *Journal*. Nevertheless, every member is urgently requested to furnish matter for publication on any subject of interest to the profession either in the form of letters or articles.

Mr. W. K. Tucker, C.M.G., was unanimously elected president of the Institute, and Messrs. F. S. Watermeyer, J. F. O. Friedrich, C. D. Lucas, W. H. A. Pritchard, B. W. Brayshaw, D. G. B. Malherbe, W. M. Harries, W. H. Greathead, B. E. A. O'Meara and E. W. Ferguson, members of Council for the ensuing year, while the subscription was fixed at four guineas for the same period.

DERBYSHIRE CROSSES.

In former times there were numerous stone crosses throughout Derbyshire. They served several purposes. Some were for devotional use, others stood for parish boundaries, and a third class were set up where a market was held. Many of them have disappeared, says the *Manchester Guardian*, and a note on the map is perhaps all that remains to tell us of their whilom existence. In some cases the stump or socket remains, and while we have no perfect cross in Derbyshire there are several which are so little deficient that we can get a good idea of what they were originally.

First as to market crosses. In the main street of the upland village of Crich there is a large modern cross, but it is not of a particularly pleasing character. At Bonsall, the delightful village on the western slopes of Masson, near Matlock Bath, is the successor of a vanished old market cross, fixed on a fine pile of fourteen circular steps, the two bottom ones being of solid limestone rock *in situ*. The shaft is slender and the head very meagre and plain, but the whole makes a decidedly pleasing object, and one that reminds us agreeably of former times. The Bonsall cross is in a conspicuous position, just outside the picturesque gabled King's Head inn, built in 1677, which has a swinging sign showing on either side very fair portraits of His Majesty Charles the First. A market cross mounted on a big circular pile of steps, very similar to the one at Bonsall, may be seen at Repton, the historic village on the banks of the Trent in South Derbyshire.

Of the devotional crosses, one was formerly at King's Newton, near Melbourne. It stood in an open space where four roads meet. The square stone steps still remain, and from the soil they enclose now springs a large wide-spreading tree. The beautifully carved head of the cross was found some years ago in a well. One side showed the Virgin and Child, and on the other side was the Crucifixion. These details are of fourteenth-century date. An interesting Mediæval cross in very fair condition may be seen at Wheston, near Tideswell, in the High Peak. The base consists of three rectangular steps 8 feet square at the bottom, and the cross has a grit-stone shaft 4 feet high. The head is foliated, and the arms are about 2 feet 6 inches ong. The western face shows the Madonna and Child, nd on the eastern side is a carving of Christ on the Cross. he part below the waist is cut away and the face has been utilated, but the outstretched arms and hands are very ood and the ribs are sculptured with considerable realism, he stone bearing the right hand has been broken and ended. At the head of the cross there are five cusps in ach right angle, and a floral design at the top and on the nds of the arms. The cross is situated in a small grove of ees near the roadside at the west end of the village.

Several of the boundary crosses that were in use before he Norman Conquest of Britain are extant, though not *in itu*. One Saxon cross of this kind is incorporated in the ont of Wilne Church, while another supports a sundial at ernilee Hall, near Buxton. Traces of boundary crosses re numerous in the Peak. There is a socket where Primose Lane meets Black Lane, on the boundary-line between Iellor and New Mills. On Ludworth Moor are the stumps nd sockets of two crosses, these remains having the eculiar name of Robin Hood Picking Rods. They are ituated at the spot where four townships meet, namely, udworth, Chisworth, Mellor and Rowarth. Another socket n the same vicinity is known as the Abbot's Chair, and it ests near the Monks' Road. The best specimen of this ind of cross that we have left is on a spur of Kinder Scout, ,750 feet above datum line, on the highest part of the ncient track between Hayfield and Edale. Dr. J. Charles ox, the learned antiquary, surmises that this was a large axon cross, and was altered by the Normans when they earranged the wards of Peak Forest. It is not only at arochial boundary-mark, but also indicates the point a hich three wards of the Forest met each other. The incription "I. G. 1610" on it was doubtless cut by orders of ohn Gell, a commissioner who began a survey of the forest t that date, this being the usual custom in such matters.

But the best crosses in Derbyshire are found in the hurchyards at Bakewell, Eyam, Taddington and Blackwell. The first named is about 8 feet high and 2 feet wide. The ront and sides are ornamented with a series of bold winding scroll mouldings, each scroll having a finial in the centre ike a bunch of grapes, and there is little doubt that this attern symbolises the True Vine. At the top is a muchworn carving of someone riding on an animal, and on the everse there are a number of sculptures, including one of he Crucifixion, as usual. The Eyam cross is very similar to he one at Bakewell. Amongst its sculptures are four figures of angels holding crosses and blowing long trumpets, also a arving of the Virgin and Child. At Taddington the upper art of the cross is missing. The tapered shaft is 6 feet high, 8½ inches square at the base and 7 inches square at he top. It is much defaced, but appears to have had arvings of foliage. Dr. Cox, the great authority on the subject, thinks this cross was erected by Celtic missionaries rom Lindisfarne, who converted the Mercian kings, Penda and Wulfhere, with most of their subjects, about the middle of the seventh century. The portion of the cross at Blackwell stands 5 feet above the ground, and the base measures 6 inches by 12 inches. It is coeval with and closely esembles the Taddington cross. It is believed that these hurchyard crosses were all put up before the ninth century o commemorate the early Christian bishops of Mercia, and hat they were damaged in the first instance by the pagan Danes who ravaged the kingdom in the year 874. Considering the dangers to which they have been exposed hroughout many centuries, it is really wonderful that so nuch of them remains.

TESSERÆ.

Engraver *v.* Painter.

ON July 2, 1801, the case Delatre *v.* Copley occupied the attention of Lord Kenyon and a jury during an entire day. It related to the execution of an engraving from the picture of "The Death of Lord Chatham." This was originally painted by the defendant. As soon as it was finished he put it into the hands of Bartolozzi, who undertook to engrave t for 2,000 guineas. This print was admirably done, but he price being high he wished to publish another which he could afford to sell at a more moderate rate. He therefore contracted with the plaintiff for an engraving about half the size, for which he was to give him 800*l.* After working on he plate three years Mr. Delatre thought he had brought it o perfection and sent a proof to Mr. Copley. The latter, however, was dissatisfied with the performance and refused o pay the stipulated sum; upon this the action was brought to recover 580*l.*, the balance due to the plaintiff, he having received 220*l.* during the course of the work. The first witness called was Mr. Bartolozzi, who spoke very much in favour of the engraving; copies of it were produced, as well of Bartolozzi's. Mr. Erskine, in cross-examining the witness, desired him to compare minutely the two prints together. "Do you see, sir," said he, "in your own the younger son of Lord Chatham in a naval uniform, bending forward, with a tear in his eye and a countenance displaying the agony of an affectionate son on beholding a dying father? and do you not see in the other an assassin, with a scar upon his cheek exulting over the body of a young man whom he has murdered? In the one you observe the late Minister, a thin, fair-complexioned, genteel-looking young man; in the other, a fat, round-faced, grim-visaged negro. In the one, the Archbishop of York appears in his true colours, as a dignified and venerable prelate; in the other, his place is usurped by the Drunken Parson in Hogarth's 'Harlot's Progress.' In the one, the Earl of Chatham is supported by his son-in-law, Lord Stanhope—a figure, tall, slender and elegant; and does not the other offer to view a short, sturdy porter of a bagnio, lugging home an alelecher who had got mortal drunk?" Mr. Bartolozzi allowed that some of the portraits were not exactly like, but maintained that the piece was well executed upon the whole. "Mr. Pitt's looks," he said, "had altered much of late years, and this accounted for the dissimilarity of his appearance in the two prints." This remark caused a loud and general laugh. Mr. Bartolozzi was followed by an immense number of other engravers, who all coincided in opinion with him. After a very eloquent speech for the defendant from Mr. Erskine, as many eminent painters were called, whose opinions were diametrically opposite; among these were Sir William Beechey, Mr. Opie, Mr. Cosway, Mr. President West and Mr. Hoppner; they, together with several engravers, unanimously pronounced the engraving extremely ill executed, and declared that the defendant could not publish it without materially injuring his reputation. Lord Kenyon professed total ignorance upon this subject—the knowledge of the fine arts, he said, doubtless added to the value of human life; but this source of enjoyment had unfortunately never been opened to him. He found himself in a wilderness, and at a loss what path to take to arrive at justice; he found fourteen persons (it so happened that an equal number of witnesses had been called on both sides) who all advised him to go one way, and other fourteen who insisted on his going another. The strong man, when at a loss whether to follow the advice of Virtue or Pleasure in his way to the Temple of Fame, had been enabled to make a prudent choice, but his Lordship had no clue whatever to direct his steps; he would not even talk upon the subject lest he should appear a fool and a babbler, like the man who discoursed on the art of war before Hannibal. In the course of his charge, however, the noble Lord laid great stress on the evidence of Mr. West, and though he gave no direction to the jury, seemed inclined to think that the defendant was entitled to a verdict. The jury nevertheless, after withdrawing for about ten minutes, found a verdict for the plaintiff.

A Greco-Roman Style.

All the varieties of construction which appeared in the civilised world antecedently to the decline of the Roman empire can be designated under the general appellation of the architecture of horizontal lines; it was the work of after ages, by the total disuse of the entablature and the exclusive substitution for it of the arch, to introduce in the Romanesque or Norman style and to bring to perfection in the Pointed the other grand class of art which connects itself with modern times, the architecture of perpendicular lines. That the architecture of horizontal lines was, by the masters of antiquity, carried to so close a proximity to perfection as to render it impossible for the taste of subsequent generations to improve upon their works, we are far from presuming to assert. True it is, however, that the Greek and Roman styles have so far excelled their early prototypes by the appropriation and culture of all that can conduce to the harmony and completeness of their respective modes, separately considered, as to have superseded, for modern purposes, every other variety of the ancient world; insomuch that, to affect at the present time an imitation of Egyptian examples, except under very peculiar circumstances of locality and appropriation, would indicate a judgment as ill directed as his who should wish to reintroduce the rush-covered floors and wooden trenchers of our ancestors, because tired of the constant recurrence of our own carpets and dinner-services. But, idle as it would be thus to take a retrograde course in pursuit of variety, we are disposed to think that there is ample space for an opposite movement in the field of art. The Grecian school has, indeed, established for itself a style which, for the beauty appropriate to simplicity, cannot be surpassed; while the Roman works attain a picturesque splendour more than sufficient to compensate for any want of delicacy in the detail. We may, however, well admit of a doubt whether an earlier acquaintance with the principle of the arch would not have been productive of a wonderful addition to the variety of Greek composition, or whether the taste of the Roman might not have gained refinement had he consulted the works of foreign talent with more of the patience of the student than of the impetuosity of the conqueror; whether, in short, the style of both might not be expected to have attained a still higher character, allowing the supposition that the patronage of Pericles had been coeval with that of Augustus, the freedom of Greece unimpaired and national intercourse supported. The feminine grace which invests the Grecian remains stands, indeed, in powerful contrast with the aspect of daring strength and armed glitter appropriate to the masculine form of Roman art; but characteristics as seemingly repugnant to each other have offered no obstacle to the hand of the modern master when, with the pencil or the chisel, he would combine the dignity and beauty of opposite sexes in the figure of an angelic messenger. The remains of the Temple of Jupiter Stator at Rome, though somewhat overladen with ornament, display a beautiful illustration of the improvement of Roman details upon Grecian principles, an effect equally observable, also, in the whole composition of the elegant temple at Tivoli.

GENERAL.

The Royal Institute of British Architects will be received by the Mayor of Newcastle at the Barras Bridge Assembly Rooms, Newcastle, on Tuesday evening. On Wednesday an excursion by steamboat to Tynemouth will take place in the morning. Luncheon in Newcastle, to be followed by visits to the cathedral, the castle, the Black Gate, the Laing Art Gallery, &c. On the 13th inst. a dinner will take place, and on the 14th visits to Hexham or Durham.

Mr. W. H. Knowles, Newcastle-on-Tyne, has obtained the first and second prizes in the competition for the Bolan Street schools in that city.

Sir Alexander R. Binnie has been retained by the Wolverhampton Town Council to prepare a report on the local water supply. The fee to be paid is 150*l.*

The International Sanitary Convention of American Republics was opened at Washington on the 9th inst.

A New Municipal Theatre has been opened in Calais. It is in the Louis Quatorze style and was designed by M. Malgras.

A Monument of the late M. Henner, the painter, is to be erected at Bernwiller, in Alsace, where he was born.

The Imperial Patent Office in Berlin is now open. The principal façade faces the Gitschinerstrasse in the southern part of the city.

The Late Mr. Joseph Wood, of 9 Westbury Park, Durdham Down, Bristol, architect and surveyor, has left estate valued at 20,255*l.* 3*s.* 5*d.*

In the Competition for the Lewis Street schools, Eccles, twelve competitive designs were submitted, and the awards are as follows:—1, J. H. Woodhouse, 30*l.*; 2, Henry Lord, 20*l.*; 3, Joseph Holt, 10*l.*—all of Manchester.

Mr. Herbert Draper's picture of *Jason and the Golden Fleece*, which was exhibited at the Royal Academy last year, has been purchased by the Corporation of Bradford.

The Council of the Institution of Civil Engineers have, in addition to the medals and prizes given for communications discussed at the meetings of the Institution in the last session, made the following awards in respect of other papers dealt with in 1904-5:—A George Stephenson Medal to Captain H. R. Sankey, R.E. (retired), London; a Watt Medal to Dr. C. Chree, F.R.S., Richmond; Telford Premiums to Messrs. W. E. W. Millington, Oldham; C. E. Stromeyer, Manchester; C. W. Hill, London; F. C. Lea, London; W. B. Cole, London; W. C. Popplewell, M.Sc, Stockport; E. H. Rigby, B.Sc., Tien-tsin; and W. O. Leitch, jun., Tien-tsin. For students' papers the awards are:—Miller prizes to Messrs. A. B. Potts, Macclesfield; W. M. Hayman, Glasgow; R. E. Bury, Calcutta; T. Lees, jun., Winnipeg; T. L. Matthews, London; P. J. Risdon, London; F. E. Tudor, Stevenage.

The Society of Architects will hold their twenty-firs anniversary meeting on Tuesday, the 19th inst., at Stapl Inn Buildings, Holborn.

Mr. R. Raper, at a meeting on Tuesday of the Malver Hills conservators, offered to convey to the conservato the right to for ever preserve the land on the Herefordshi Beacon from quarrying. The British camp, he pointed ou had historic associations of national importance, it bein the highest and oldest fortified camp in the country. Th Board accepted the offer, and cordially thanked Mr. Rape for his generosity.

Mr. F. M. Simpson, F.R.I.B.A., has removed his office from 137 Gower Street, London, W.C., to 88 Gowe Street. His telephone number is 5737 Central.

The Society of Arts announce the competition for th Owen Jones prizes, open to "Students of the Schools of Ar who, in annual competition, produce the best designs fo Household Furniture, Carpets, Wall-papers and Hangings Damasks, Chintzes, &c., regulated by the principles lai down by Owen Jones." The next award will be made i 1906, when six prizes are offered for competition, eac prize to consist of a bound copy of Owen Jones's "Principles of Design" and the Society's Bronze Medal.

The Sheffield Corporation have reorganised the Cit Surveyor's department in consequence of Mr. W. T. Lancashire having been appointed city surveyor at Leeds. Mr W. J. Hadfield is to be deputy city surveyor, with a salar of 350*l.*, rising to 400*l.* Mr. T. R. Dickinson is to be chie district surveyor at a salary of 320*l.*, rising to 360*l.*; an Mr. E. Partington is to be appointed chief assistant in th Highway and Improvement department at 200*l.* a year rising to 250*l.* Mr. Partington will be succeeded in th eastern district, where he is assistant surveyor, by Mr. C. T Howard, whose position in connection with private stree works will not be filled.

The Board of Education have issued a list of candidates who were successful in the competitions for Royal exhibitions, local scholarships, national scholarships and free studentships in art this year. The Royal exhibitions were awarded to Percy A. Wise, Birmingham (Municipal); Emily G. A. Abraham, Bristol, Queen's Road; James W. Baxter Carlisle; Herbert R. Fraser, Edinburgh, Royal Institution Jessie M. Lawson, Edinburgh, Royal Institution; Herbert H. Stansfield, Manchester (Municipal); Frederick N. Smith, Bridgwater; William O. Cannell, Bournemouth, Poole Hill Tobias Lewis, St. Marylebone; and Robert W. Stewart, Edinburgh, Royal Institution. The National scholarships were awarded to Frederick W. Burrows, designer, Hammersmith; Henry Müller, furniture draughtsman, Manchester (Municipal); Herbert R. Fraser, modeller, Jessie M. Lawson, sculptor, and Alexander Carrick, stone carver, Edinburgh, Royal Institution; Herbert H. Stansfield, modeller and metalworker, Manchester (Municipal); Charles Vyse, pottery modeller, Hanley; Herbert Whiteside, designer for stained glass and decoration, Manchester (Municipal); Lawrence Preston, lithographic artist and designer, Leeds.

The West Bromwich free library committee met on Monday to consider the competitive plans for the new free library buildings, the gift of Mr. Andrew Carnegie, which are to be erected at a cost of 7,500*l.* There were altogether twenty-seven sets of plans sent in, and the following awards were made:—1st, 50*l.* (which is to be merged into the commission), Mr. S. J. Holliday (West Bromwich); 2nd, 30*l.*, Mr. A. G. Latham (Birmingham); 3rd, 20*l.*, Messrs. Crouch, Butler & Savage (Birmingham).

The Liverpool City Council have adopted a resolution of the arts committee consequent upon a suggestion from the Liverpool Academy of Fine Arts, that one of its members should act as a co-opted member of the arts and exhibition sub-committee. The resolution in question was as follows:—"That this committee, while appreciating the interest taken in its work by the Liverpool Academy, do not think it is advisable to accede to the request made, having regard to the facts that it already has the advantage of expert assistance, and that much of the work of the committee relates to matters in which it would not be expedient to have as a colleague an exhibiting professional artist. The committee point out that in the memorial of the Liverpool Academy a wider view of this committee's functions is taken than is the case."

The Trustees of the Melbourne National Gallery have purchased Mr. Ford Madox Brown's cartoon "The Baptism of Edwin," with money left for public art purposes by the late Mr. Felton. This cartoon is one of the twelve used by Mr. Madox Brown when preparing for the decorations of the Manchester town hall.

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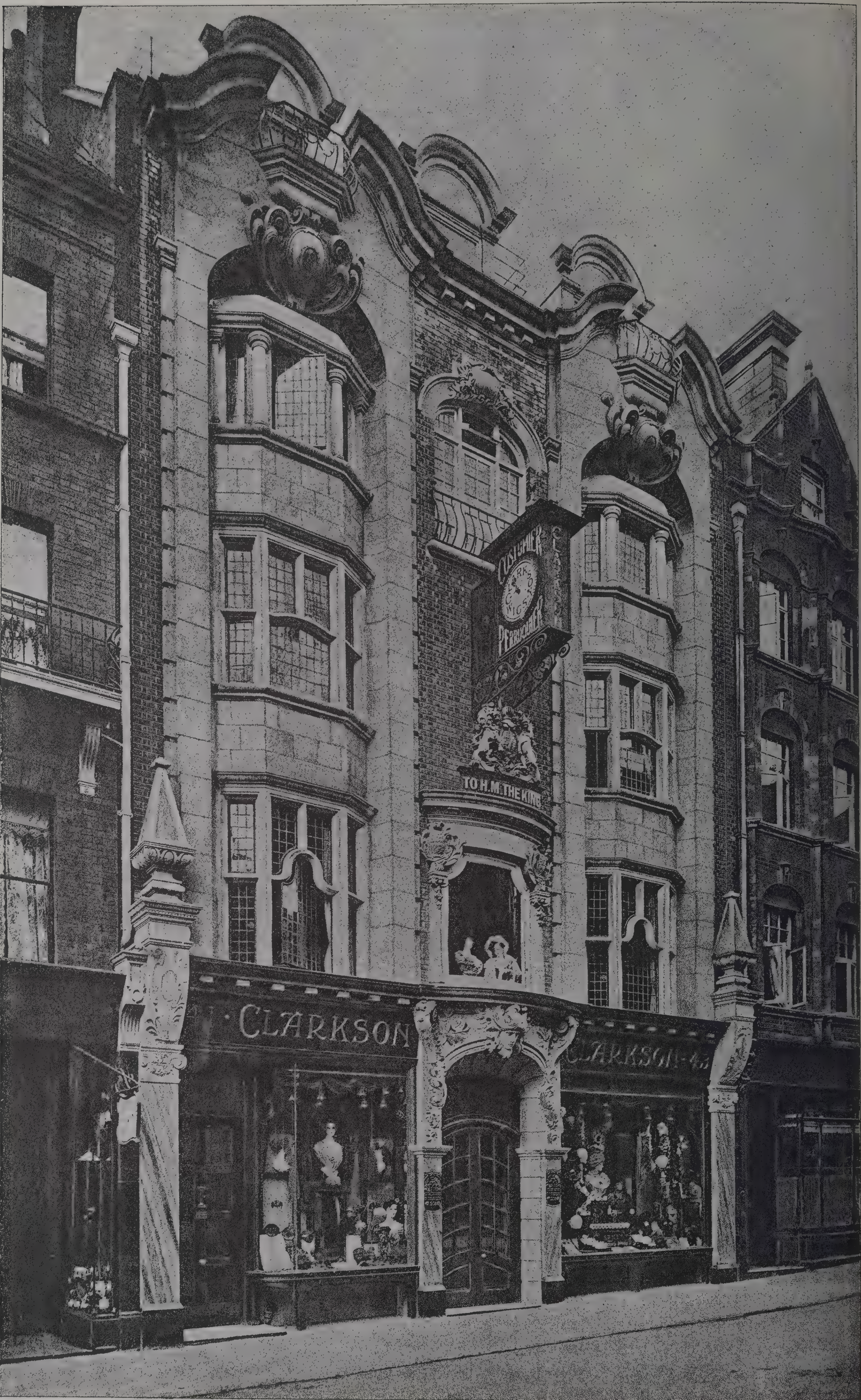

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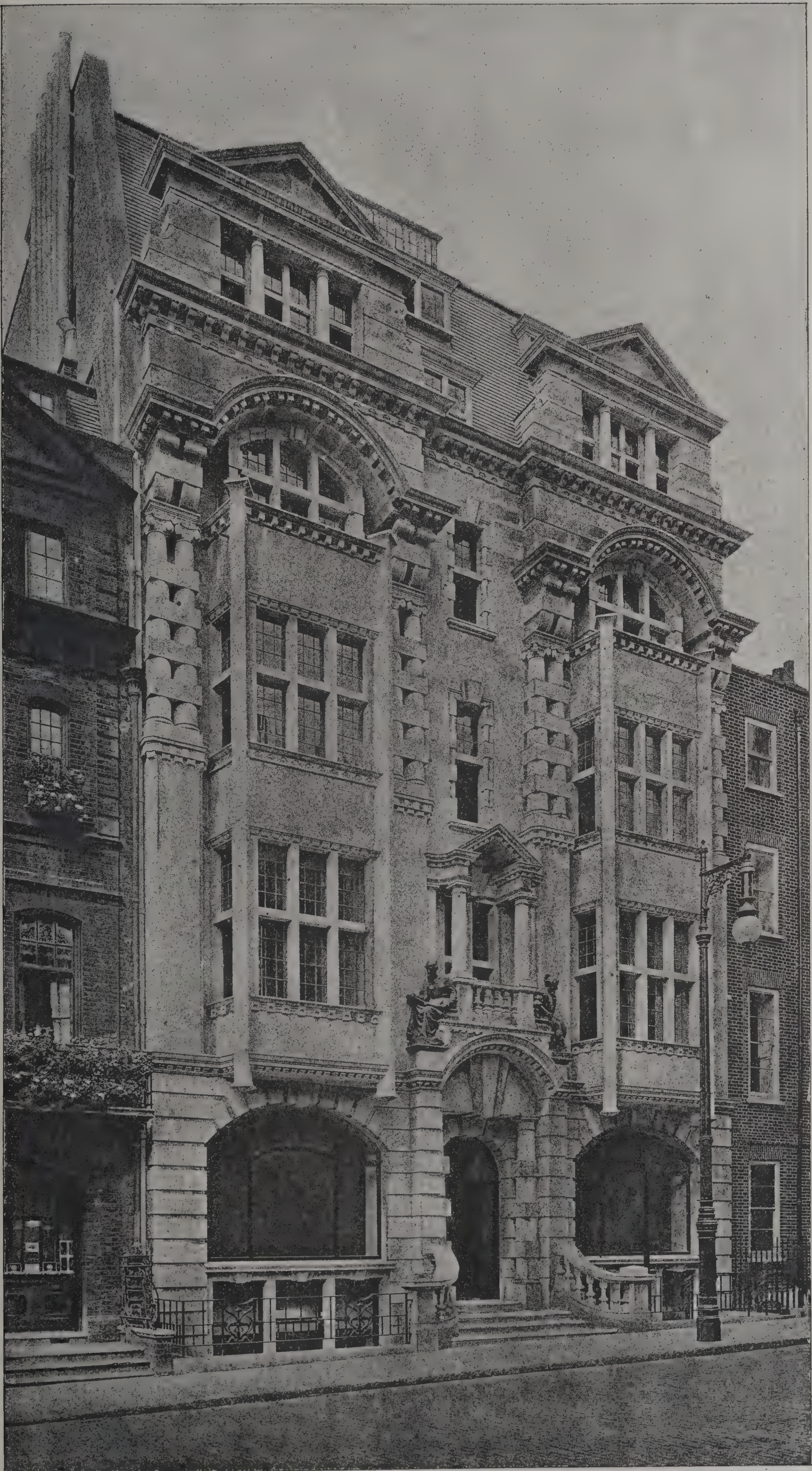

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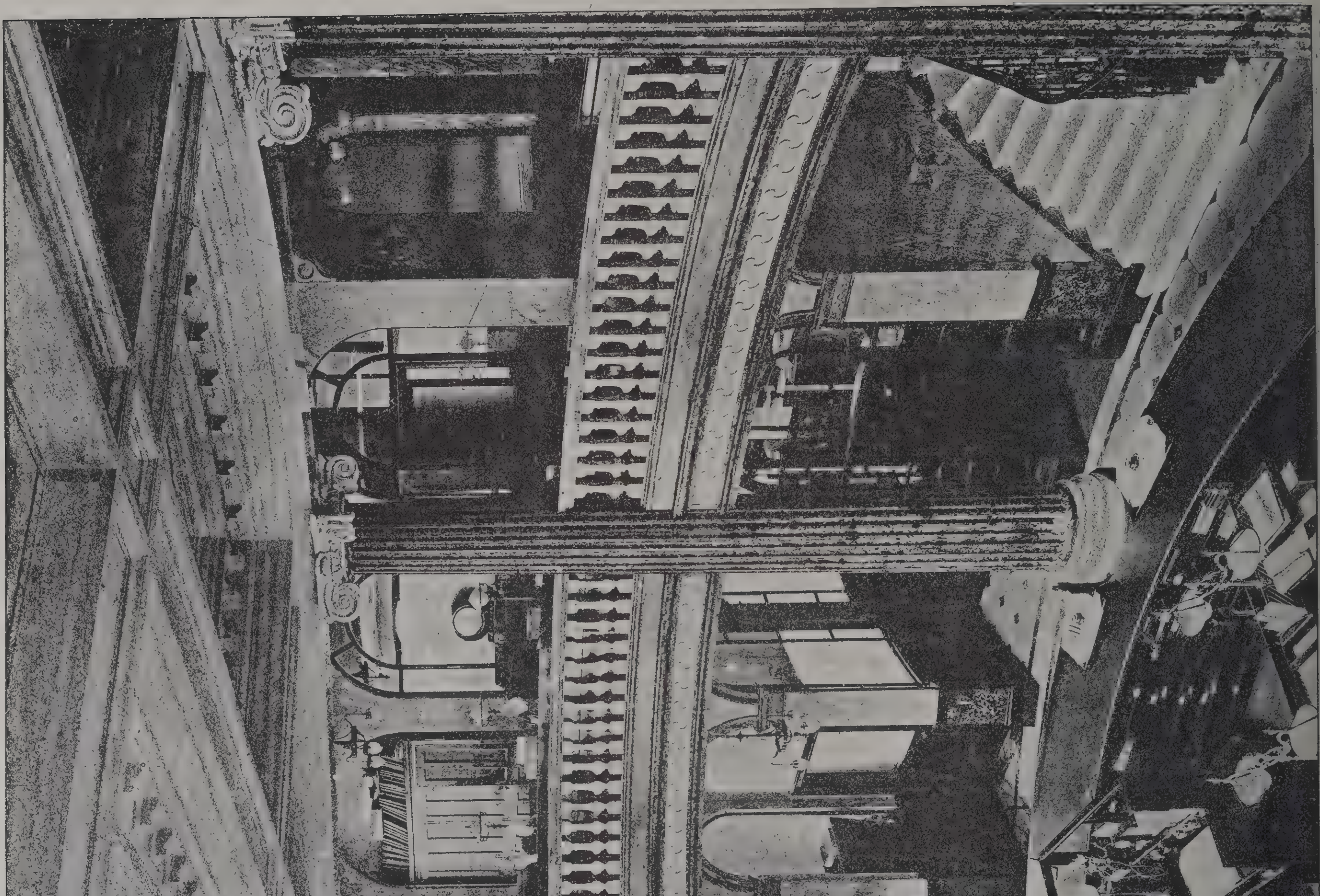

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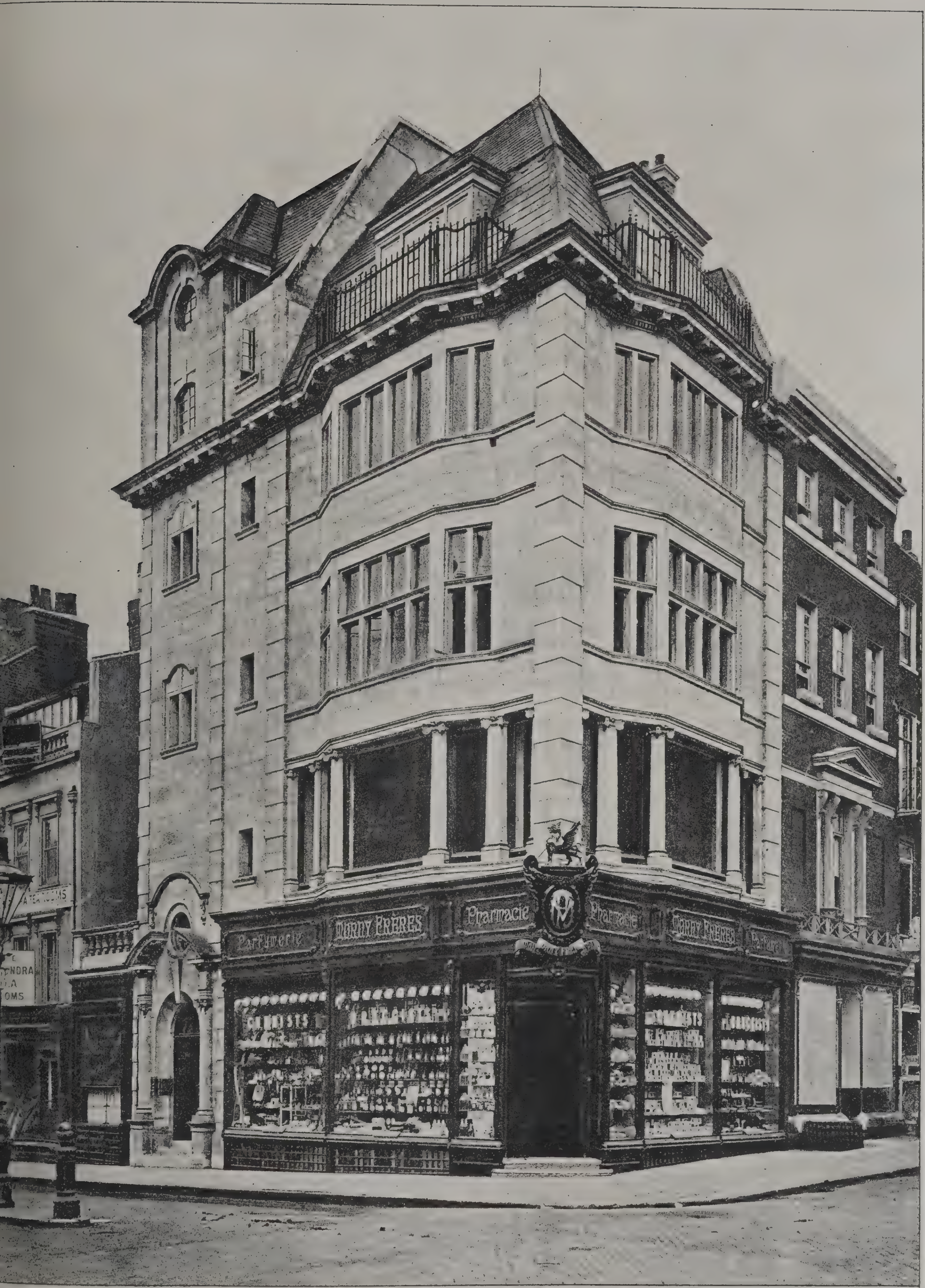

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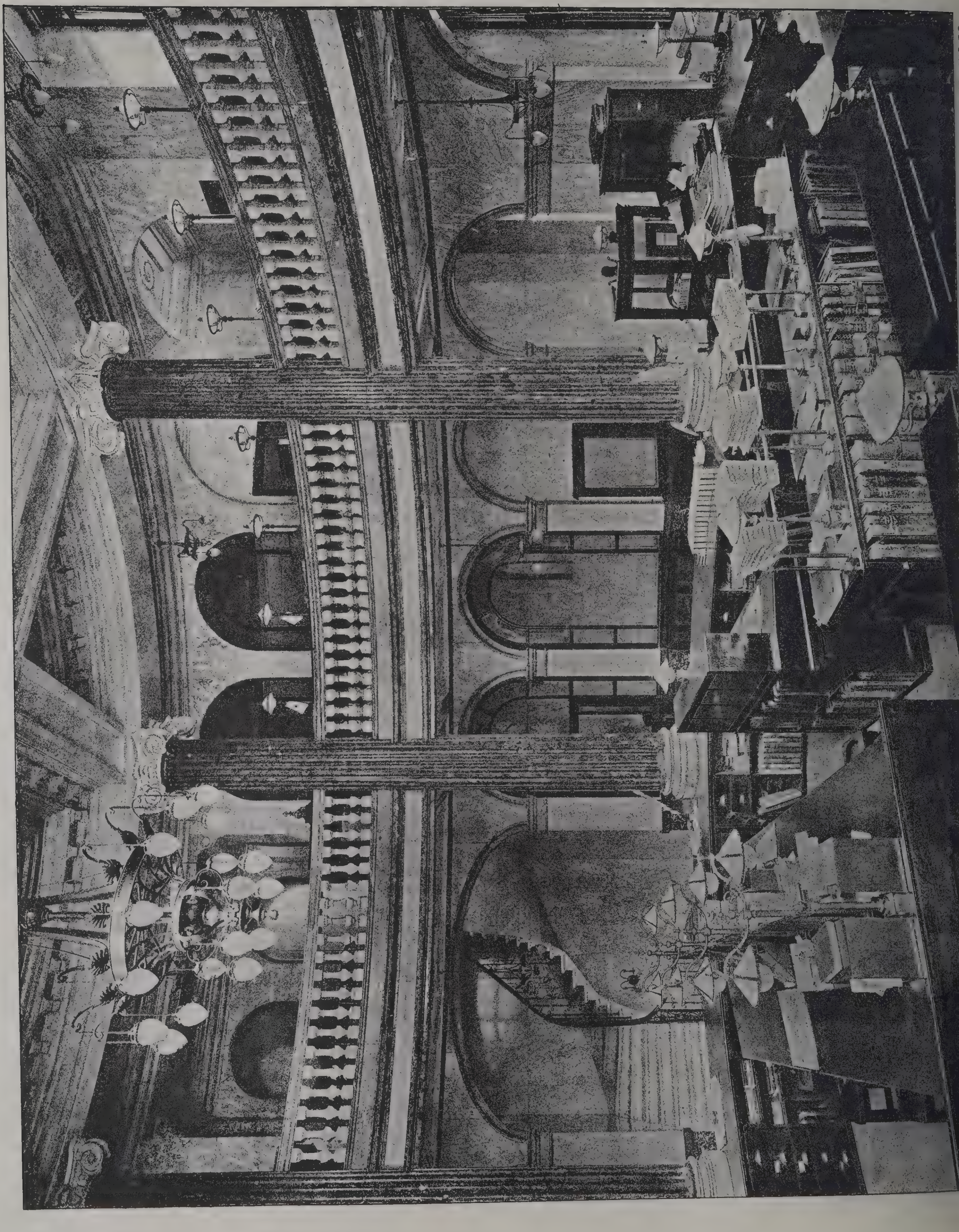

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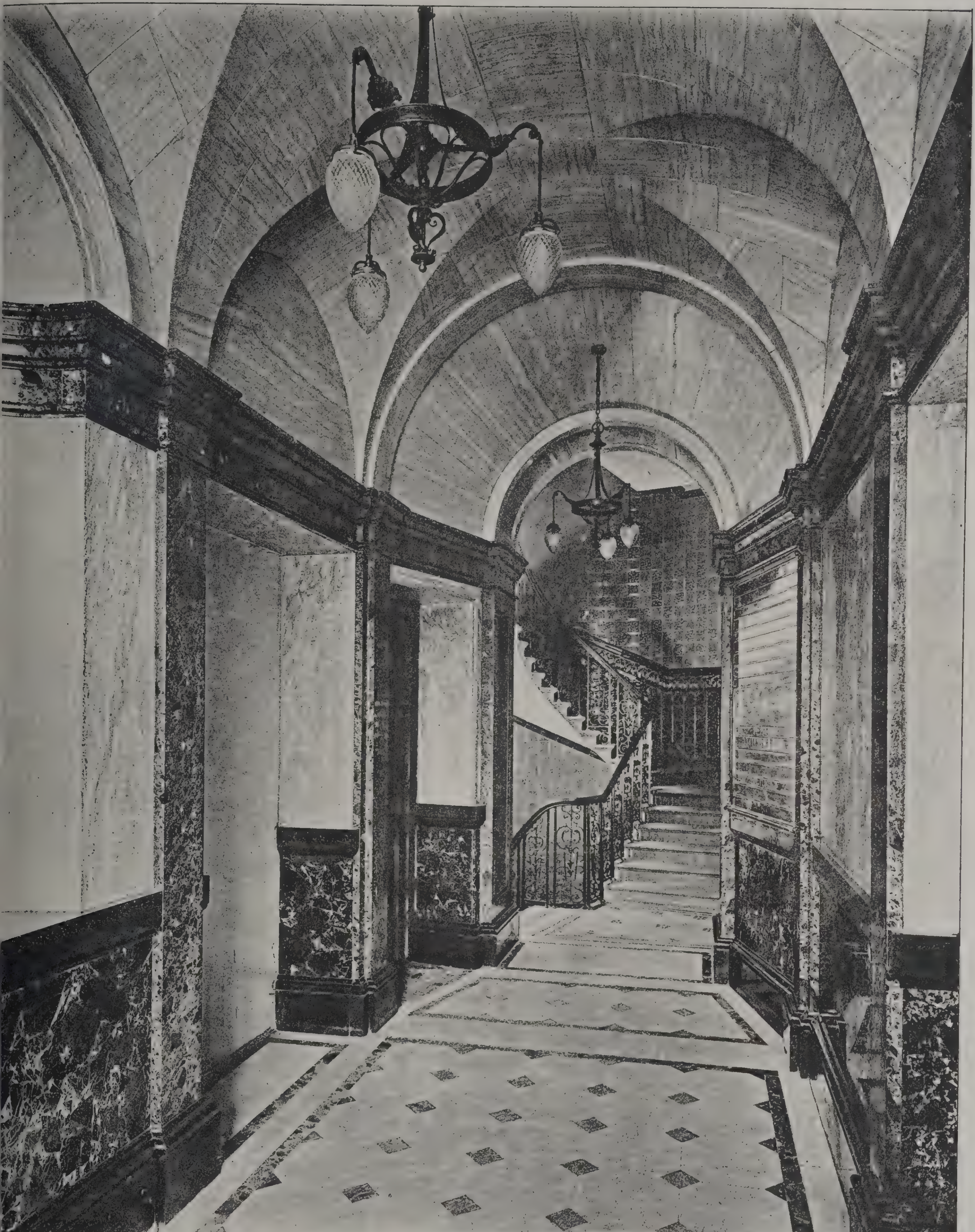

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THE WEEK.

ie late Archibald Stuart Wortley, who died last ek in his fifty-seventh year, was more than an ateur, for as he was President of the Society of rtrait-Painters he must be considered as a pro- sional artist. He had the distinction of being the ly pupil of Millais. When he used to express his ability to draw the details of a landscape—for he metimes used to work in the open air beside the great ist—Millais used to say, "Dash it, my boy, you ist draw them. Remember that if you don't, some low will come from round the corner who will, and en, in an exhibition, where will you be?" Mr. uart Wortley has recorded that he studied under eral masters, but Millais was the only one who ild in five minutes (for he was always in a whirlwind rry) show him how to put right any part of his ture that was wrong. One of the master's maxims s, "It doesn't matter how beautifully a thing is nted, it is no good if it isn't right. It's got to come ." Another time he declared, "You must handle ur brush gracefully; the execution should be more ttily done." Having ability, and with such a master, was no wonder that Mr. Stuart Wortley became admirable portrait-painter. He was no less suc- sful with paintings of sporting scenes in England, of ne of which prints were taken. He was buried on turday at Wortley.

Amusement was recently afforded to the readers of wspapers by the report that the Earl of Kimberley, o is county councillor in Norfolk, had challenged a ow-councillor, Mr. Sapwell, to fight a duel with in Paris. It was not, however, stated that the pute arose out of a recent architectural compe- on. It was announced that premiums would be arded for the best designs for a Shire Hall. The nty surveyor advised the committee about the angements. At first it was suggested that anyone king particulars should have to deposit 10*l.*, after- rds the sum was reduced to 1*l.* There were no less n 300 applications. The Royal Society of British hitects refused to appoint an assessor on the ground t it was unusual to require a deposit or to have the ign accompanied by an offer from a responsible builder arry out the work at the estimated amount. There was no plan supplied of the site. The committee sur- dered on two of the objections. But with regard to plan, they said that inasmuch as the chief object of competition was to ascertain how much of a difficult could be safely utilised to provide the necessary mmodation, the committee could not undertake to ish a plan of it, but stated that a plan of the ground vell as a plan and section of the existing building ht be seen at the shirehouse. An assessor was not, ever, appointed. Instead of 300 sets of designs twelve had been received, and the committee did know what to do with them. Mr. Sapwell reved the proceedings of the committee, by which, he , the Council had been placed in an undignified posi- . Lord Kimberley stated that the objections were made before the committee, and in that way the ute arose, which happily has been settled. Mr. well wished the committee to open the packages and lect designs which they considered deserving of the niums, 100*l.*, 50*l.*, and 25*l.*, which had been promised. amendment was adopted to the effect that the com- ee be reappointed, with instructions to appoint an ent architect to advise them in the matter of the tion of plans, &c. But what will be the result ins unknown.

The Germans were not forgetful that last Sunday the centenary of the birth of Wilhelm von Kaulbach, who during many years was believed to be the greatest of their painters. He was born in Arolsen (Waldeck), and was the son of a goldsmith. Not liking his father's business, he was allowed in 1821 to enter the Düsseldorf Academy, where he had Cornelius for a teacher, whose influence is seen in many of Kaulbach's works. In Bavaria great efforts were made to encourage wall-painting, and both Cornelius and Kaulbach were given commissions. Among those undertaken by Kaulbach was the decoration of the palace of Duke Maximilian. He was not a colourist, and the system followed was more favourable to drawing and composition. The only time in which the walls could be painted was between May and September. The rest of the year was devoted to the preparation of the cartoons. Kaulbach was great as a draughtsman, and the publishers utilised him for the illustration of fine editions of Goethe and other poets. Frederick William IV. of Prussia was glad to obtain his services for the decoration of the museum in Berlin. His *Battle of the Huns, Tower of Babel, Destruction of Jerusalem* are amazing from the number of figures and the invention. His figures were those of a giant race, and he helped to create the belief that the ancient Germans were physically superior to Greeks and Romans. He never could be considered as a great colourist, and when the desire for wall-paintings declined he wisely turned his attention to portraits. His works now appear old-fashioned or representations of an unreal world, but for a time his countrymen believed they were wonders.

One of the incidents of the battle of Crécy was the death of John, the blind king of Bohemia. In order to have a stroke at the English he placed himself in the midst of four knights, who interlaced him with their bridles and, attacking the enemy like one man, were immediately slain. His motto, "Ich Dien," has since been borne by the Prince of Wales. On the battlefield a stone cross was erected as a memorial of him, of which a part remains to this day. Whether it is a portion of the original cross is doubted by archæologists. The battlefield is used by agriculturists, and the stone was not valued as it blocked the way. M. Louis Leger, the professor of Slav literature in the College of France, considering he had a personal interest in the relic, opened a subscription in order to obtain sufficient money to place the cross on a pedestal where it would be safe from farm labourers. More than enough money having been raised, a commission was given to M. Milvoy, architect, to prepare the design. The memorial consists of a pyramid of white stone surmounted by a small belfry. A large medallion has been executed by M. Fontaine, sculptor, representing the king on horseback, the suggestion for it being a seal in the Prague Museum. Delegates from Bohemia and Luxembourg were present at the inauguration ceremony.

We described last week the important gift which the Baron d'Erlanger has made to the nation, and which are reproductions of the cartoons by Raphael, which came from the looms of Jean Raes in Brussels. The tapestries have been hung in the King's Gallery, Hampton Court Palace, and take the place of the original designs which were transferred to South Kensington. The officials at the Palace have adopted precautions to secure the tapestries from damage. All of them have been mounted on specially prepared skeleton frames. An apparatus has been attached by which they can be instantly lowered in case of fire. As the surest means of securing the safety of the tapestries the backs have been covered with uralite supplied by the British Uralite Company, Ltd. This is another illustration of the wide range of uses which this material possesses, and merits the consideration of all who have the care of the nation's treasures in any form, as well as those who possess valuable paintings by ancient or modern masters.

TRAFFIC ROUTES IN LONDON.

WHEN the report of the Royal Commission on London Traffic appeared in July we explained its recommendations. One was the construction of a great road 140 feet wide from Bayswater to Whitechapel at a cost of 15,000,000*l.*; there was also to be another great road from Holloway to the Elephant and Castle. Several other road improvements were described. It was likewise suggested that a traffic board of three members should be constituted.

The Commissioners were aided by an Advisory Board of engineers, consisting of Sir John Wolfe Barry, Sir Benjamin Baker and Mr. W. B. Parsons. It would be ungracious to say a word against the skill of the three experts. But it should be remembered that their main employment has been in connection with railways. They have designed and superintended works of other kinds, but we cannot recall one instance of their laying out a street. The problem before them was regarded in the manner which is usual with railway engineers. They did not, like the late Sir John Rennie, take an Ordnance map and draw a straight line with aid of pencil and ruler, and tell their assistants to make a survey and sections along that line. But they went as near to that sort of process as was feasible. They proposed the construction of some very wide roads and the widening of others, and then supplemented them by adopting a similar method for the tramways in and around London. That system may be excellent in engineering eyes. But it does not correspond with the way in which foreign cities have been laid out. The inhabitants of London may consist of "shopkeepers," to use the Napoleonic term, and it may be right that London should be transformed in order that they may receive and despatch their goods with expedition. But a great city should present the spectacle of something more than a connection between a public-house in Holloway and another in the Old Kent Road, or of taverns in Bayswater and Whitechapel.

If it had been settled that direct communication between the railway termini inspired the proposals they could be easily understood. London possesses excellent buildings, and if something were done to suggest their importance, that also would be allowed. But the schemes proposed have no objects of that kind. They are simply big roads which the engineers consider would give facilities for travelling. A startling amount of money, it is said, is annually wasted in London from lack of travelling facilities, and the saving of money is the end proposed.

Two at least of the engineers have had experience of Parliamentary committee-rooms, and have therefore acquired the art of presenting proposals with the effect of promoters. It is pointed out that the greatest width of Fleet Street is only 61 feet, Piccadilly 55 feet and Cannon Street 62 feet. These narrow dimensions are contrasted with the Unter den Linden, Berlin, which is 196 feet; Boulevard Circulaire, Brussels, 247 feet; L'Avenue Louise, Brussels, 180 feet 9 inches; Avenue des Champs-Elysées, Paris, 233 feet; Avenue Bois de Boulogne, Paris, 393 feet 8 inches. Can any one of ordinary experience suppose that the Avenue Bois de Boulogne is a street in the ordinary sense of the word? Or that waggons find a convenience in going to their destination along the boulevard which surrounds Brussels? Or are we to believe that the whole of the 196 feet in the Unter den Linden is devoted to vehicular traffic? All this is nothing more than the mere rhetoric of engineering, in which the youngest of the Parliamentary counsel is an adept. The streets mentioned in continental capitals are to be considered as grandiose spectacles rather than ordinary roadways. And they are in places which are interesting also. It does not follow that making main avenues of 140 feet in width, or arterial streets of 100 feet in width, would necessarily add to the beauty of London. But that is a policy which does not appear to have com within the purview of the Advisory Board.

As to the loss of time, of which so much is made i the report, it is one of those grievances which are onl serious when taken wholesale. To say that there wer 259 stoppages in the Strand in the course of a day, an that the time amounted to 4 hours 6 minutes, sound very terrible, and especially in a Parliamentary sense But when we analyse it we find that the average of stoppage was only one minute, and the passengers i the 'buses or cabs could not have suffered much Those who are in the habit of travelling in the City wil admit that owing to the excellent management of th police the stoppages by blocks do not involve a greate loss of time than had to be suffered twenty or thirt years ago when the traffic was less and the controllin power was weak.

The Advisory Board have to admit that the construction of the avenues and streets will not be sufficien unless authority is exercised in controlling the roads Among the recommendations are:—The removal o centre tramway columns, lamp-posts, &c., from roadways generally, and also obstacles at junctions wher traffic is held up; the removal of standing vans o certain trades from the streets to private property, ca ranks from the centre of main thoroughfares, costermongers' stalls and barrows from main thoroughfares the better regulation of omnibuses leaving stopping-places, unloading of materials for new buildings, reconsideration of the laws relating to the speed of vehicle with a view to possible acceleration, especially wit respect to the speed of traction engines; the levellin and paving of unrailed forecourts, the setting-back of th frontages of places of amusement, and a more stric observance of the rule of the footway by pedestrians the better cleansing and sanding of road surfaces and a greater uniformity of materials used in the constructio of road surfaces. Much else might be added. For a large amount of the traffic by carts and waggons coul be conducted at hours when the streets are not employed with the traffic that cannot wait for anothe time. Some traders ostentatiously have vehicle drawn up at their doors, as if for advertisement and that practice should not be allowed. Londo has a deficiency of markets, and the immense numbe of vehicles which have to reach the few which exis is a burden to certain streets, and this evil woul be to a large extent obviated if there were mor markets.

It is calculated by the Advisory Board "that i occupies on the average forty minutes to travel te miles from the various London termini, and if to this b added an allowance for walking of ten minutes at each end of the journey, we arrive at a total expenditure o two hours daily for the double journey. An expenditure of time of two hours per day is a serious matter t any working man, and, indeed, to anyone engaged i business." From this it would appear that what i primarily desirable is an improvement in railways an tramways. London has so expanded that the majorit of men are compelled to give up walking. It would b well if the connection between the various systems o conveyance were better organised, and if the Traffic Commissioners could accomplish that end their appointmen should not be delayed. At present there are thre sections, and as the report says, "So far as publi convenience is concerned, the tramway systems of eac section might almost be situated in different cities." The City is closed against tramways, and the whol neighbourhood of Hyde Park is sacred from intrusion nor is it as yet allowable to have a connection betwee the lines north and south of the Thames. But great as is the convenience of tramways, it would not be wis policy to create expensive avenues and streets in orde to accommodate them. For the present at least th railway and tramway problem should monopolise th public attention, and when there is experience obtaine of an improved system, it will then be time enough t consider the subject of new roads, which, however desirable, must involve the Metropolis in an enormous expense.

CEMENT AND CONCRETE.*

UNLESS care is taken there is a likelihood that Americans will monopolise technical literature n the English language, and more particularly whatever relates to construction. English architects and engineers are singular in their indifference to books. A few may be occasionally kept in an office for show, but as a rule there is an absence of treatises or records. It might be imagined their clients considered hat practical skill does not co-exist with respect for experience as represented in books. In the United States, on the contrary, there is at least as good a market for English technical books as in England. French publishers, who cannot be persuaded that there s any sale for technical treatises in England, rely on American purchasers, although an absurd duty is levied on imports. American books can be as easily comprehended by Englishmen as by Americans, and as there s no duty as an obstacle to their introduction, it is not unlikely that an effort will be made by the publishers o secure the sale, although it may be only limited, of heir books in this country. That might be no great gain to them. But it is well to remember that technical books are not like novels. They deal with materials, machinery and processes which it may be also considered desirable to obtain for English use, as well as he services of the architects, engineers or other experts who have had charge of the works described. We may, n fact, look on the books as if they were pioneers to pen out a way in a country where there is too much upineness as a consequence of an exaggerated belief n capabilities.

It must be said that the American books deserve uccess owing to the care and labour taken in their prouction. The treatise on cement and concrete by Mr. ABIN is an example. An Englishman who uses either ement or concrete would be likely to say that it was a waste of paper and ink to occupy 500 pages with such subject. A few notes are supposed to be sufficient ata. The position of Englishmen with regard to ement and concrete is suggested when we find that there re only two or three references to experiments which ere made in this country. A stranger would suppose hat among us there is no knowledge of either material. Mr. SABIN's volume is also interesting because "the riginal investigations forming the basis of the work ere made in connection with the construction of the oe Lock at St. Mary's Falls Canal, Michigan," or, in her words, the operations at a single work were of a haracter that bore relations to all that had been ascerined concerning the materials.

We have lately noticed so many volumes of a like ass, it is not necessary for us to examine the ork in detail. It consists of four parts, which relate the classification and manufacture of cement, the operties of cement and methods of testing, the preration and properties of mortar and concrete, and e use of mortar and concrete. Each of these is eated in what is usually called a practical manner, or, other words, mathematical investigation is only introced wherever it is indispensable. The pages can erefore be of use to men who prefer plain descriptions proportions and processes to formulæ.

From what is said it would appear as if all the nerican architects are not in favour of concrete-steel nstruction. If the architect calls in an engineer to vise him the contract is certain to be let to one or two npanies. The architect hesitates seeking the assistce of any special company, for that means he has made up his mind about the advantages of a particular system, although he may not have had experience of its qualities. Clients have, however, so strong a belief in the advantages of concrete-steel that the architect in America runs the risk of seeing his occupation run away from him. That is the interpretation we put on Mr. SABIN's words when he says :—"Under the circumstances the architect will usually consider concrete-steel construction as something he wishes to avoid, if possible. But this condition will correct itself in time, for owners will demand a consideration of this form of construction, engineers will become familiar with its use and will be employed to design the engineering features, while reliable contractors in every city will obtain permission to build in accordance with any 'system' under the supervision of a competent engineer."

There must necessarily be a correspondence between the descriptions of works in Mr. SABIN's book and those in other books of the class. Courage is strong among Americans and they do not hesitate about employing concrete in ways which in Europe would be considered hazardous. But the small number of failures should be taken as demonstrating the strength of the material. Locks of concrete on great canals are novel, but Mr. SABIN restricts himself to a very brief description of the work. The following will suggest how concrete served in positions where ashlar used to be employed :—

> The present accepted method of concrete lock construction is to build the walls in alternate sections, filling in the intermediate sections after the others have set. It is sometimes thought necessary to make the work on a section continuous from time of starting the concreting to its completion. That the exterior appearance of the work may be somewhat better if such a course is followed is true, but it is very questionable whether the attainment of this desirable result is worth the additional expense and the additional liability of having poor work done under the cover of darkness when work at night is necessitated by such a rule. With proper precautions, such as making steps in the top surface of work left for the night, and being careful that the limit of work on exposed faces is bounded by true horizontal and vertical lines, the plane of weakness occasioned by a horizontal joint extending only partially through the work cannot be a serious defect in a concrete wall. The moulds, so far as the walls alone are concerned, are comparatively simple. Cable passages, gate recesses, hollow quoins, culverts, &c., call for special carpentry work, sometimes of quite intricate character. While the efficiency of the machinery and the lock as a whole should not be sacrificed to obtain easy construction, yet sharp corners should always be avoided and simplicity of outline should be the constant aim. Linings of hollow quoins (when steel quoins are considered necessary), gate anchorages, cable sheaves and other parts built into the masonry are in general placed with greater difficulty in concrete forms than in stone masonry. Aside from such special constructions, the walls may be built up much more rapidly of concrete than of stonework.

For novices who possess little acquaintance with the subject Mr. SABIN's book will serve as a useful guide. Engineers who, having no fear of by-laws, are able to use the material in this country, will find in the pages a sufficient number of the examples in various classes of construction which American architects and engineers have brought to completion to the advantage of themselves and their clients.

CANALETTO'S VIEWS OF VENICE.—XIII.

TOWARDS the close of the eighteenth century the Doge MARCO FOSCARINI, seeing that Venice was declining, proposed as one of the remedies that it should be united to the mainland. It was proposed to construct an embankment across the narrowest part of the lagoon, which was not more than two and a half miles. There would be no difficulty in obtaining mud from the marshes and gravel from the numerous rivers and streams. The embankment was to be lined with trees and paved for foot passengers. At each side was to be

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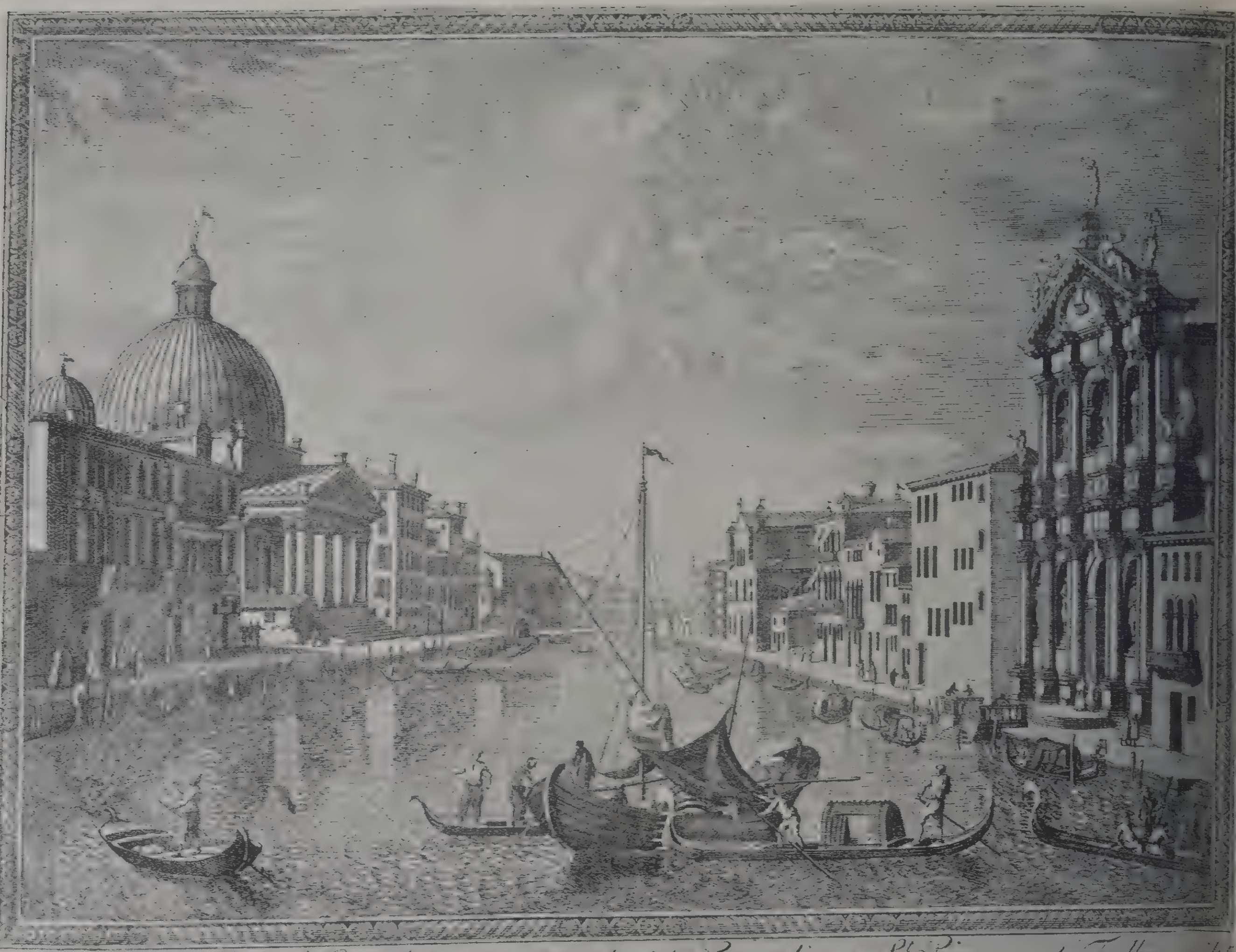
* *Cement and Concrete.* By Louis Carlton Sabin, B.S., C.E., istant Engineer, Engineer Department, U.S. Army; Member he American Society of Civil Engineers. (London: Archibald nstable & Co., Ltd.)



A View of the Grand Canal from the Church of the Carmelitas & St. Simon to the Fullers mil

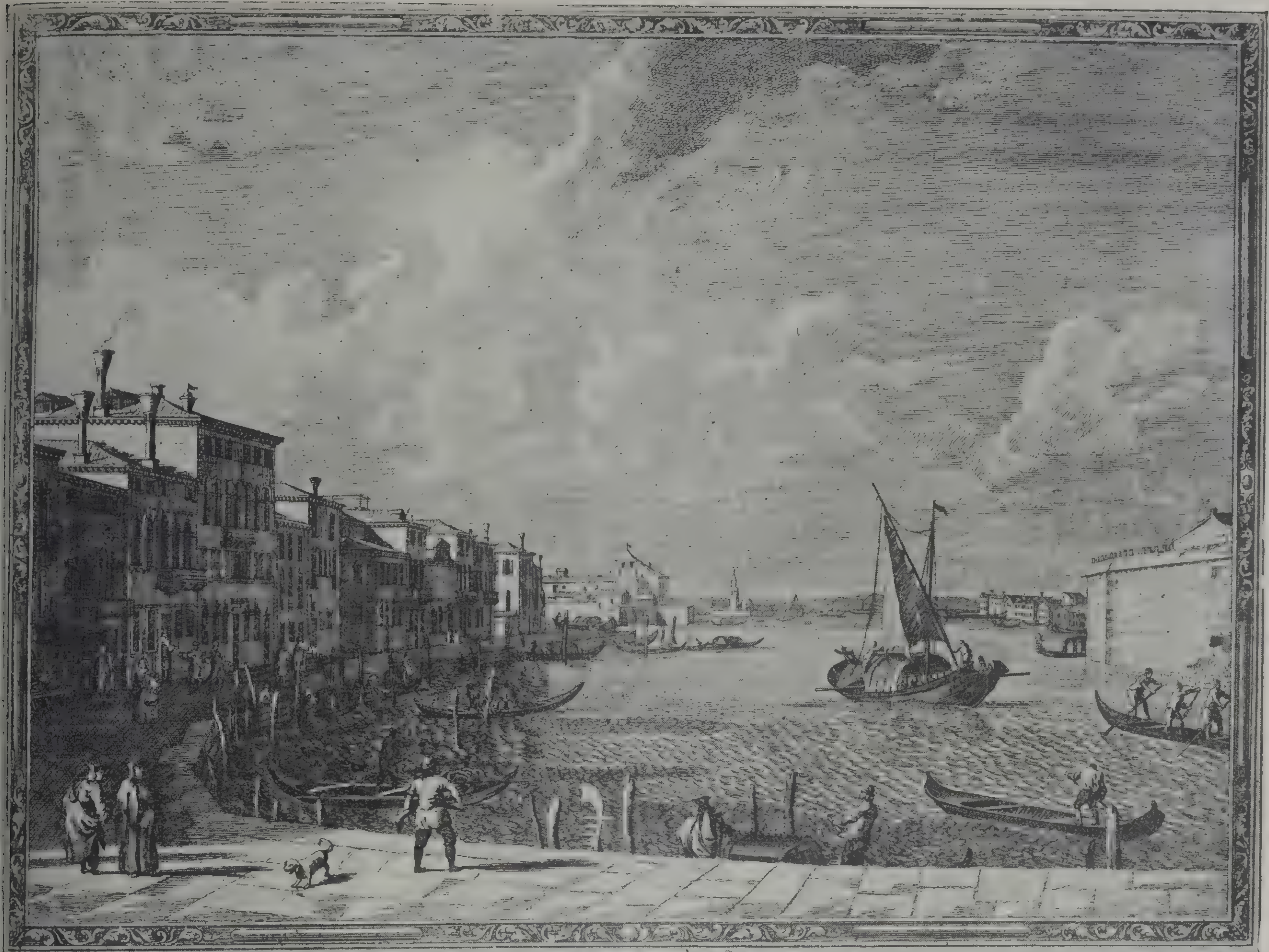
a canal with drawbridges, and measures were suggested by which the road could not be made an aid to the invasion of the city. Labour and materials were not expensive in those days, and it was estimated that the new means of communication would only cost 150,000*l*. The project was again taken up in 1823, but the embankment was never made.

The purpose it was to serve has been in modern times realised by the construction of a railway across the lagoon. One side of that part of the Grand Canal shown in the illustration, from the church Gli Scalzi, has been metamorphosed, for stations and goods yards have supplanted the old buildings. One result is that the approach to Venice no longer presents the spectacle which was familiar to old travellers. It was possible to start from either Mestre or Fusina. The latter route was adopted by the late Sir John Skelton, and he describes it as follows :—

> The inevitable railway has now crossed the lagoon, rather, as I think, marring the impression of the approach to Venice. But of old we quitted the mainland at Fusina and turned the boat's prow right out to sea. The night breeze, blackening the waves, blew in sharply and shrilly from the Adriatic. The Italian shore, from which we started, gradually grew distant and indistinct, until it disappeared in the growing darkness—all but one snowy peak of the Euganeans, on which the sunset lingered. Then the night came down upon us in grim earnest and found us still labouring in the sea-trough. For a moment it seemed a wild and extravagant whim—the mad freak of an Englishman—at such an hour, in our crazy craft, and as the wind drove the foam into our faces, to tempt the caprice of the sea. But the boatmen held on their way collected and undisturbed, and hummed at times to the oars short snatches of monotonous song. For why should they fear? This silent and desolate water was one of the beaten highways of the nations. For centuries it had formed the main road between the monarchies of Europe and its most polished and warlike republic. And now, as we turned our faces to the East and looked through the drifting foam, the red moon rose from the Adriatic, dispersed the clouds and discovered along the horizon, amid a charmed pause in the waves, the white domes and cupolas of Venice.

Mr. Ruskin preferred to start from Mestre, where, he said, in the inn the table was always covered with a cloth of nominal white, with plates and glasses at due intervals. Even at the present time Mestre has not much to show, and Mr. Ruskin was no doubt glad to get away from it, especially as at the quay there was always a collection of gondolas awaiting travellers. He says of the journey :—

> Stroke by stroke we count the plunges of the oar, each heaving up the side of the boat slightly as her silver beak shoots forward. We lose patience, and extricate ourselves from the cushions; the sea air blows keenly by as we stand leaning on the roof of the floating cell. In front nothing to be seen but long canal and level bank, to the west the tower of Mestre is lowering fast, and behind it there have risen purple shapes of the colour of dead rose leaves all round the horizon feebly defined against the afternoon sky—the Alps of Bassano. Forward still; the endless canal bends at last, and then breaks into intricate angles about some low bastions, now torn to pieces and staggering in ugly rents towards the water—the bastions of the fort of Malghera. Another turn and another perspective of canal; but not interminable. The silver beak cleaves it fast—it widens; the rank grass of the banks sinks lower and lower, and at last dies in tawny knots along an expanse of weedy shore. Over it, on the right, but a few years back we might have seen the lagoon stretching to the horizon and



A View from the Fullers mill to the Church of St. Clare at the End of the Grand Canal 14.

the warm southern sky bending over Malamocco to the sea. Now we can see nothing but what seems a low and monotonous dockyard wall, with flat arches to let the tide through it—this is the railroad bridge, conspicuous above all things. But at the end of those dismal arches there rises out of the wide water a straggling line of low and confused brick buildings, which, but for the many towers which are mingled among them, might be the suburbs of an English manufacturing town. Four or five domes, pale and apparently at a greater distance, rise over the centre of the line; but the object which first catches the eye is a sullen cloud of black smoke brooding over the northern half of it, and which issues from the belfry of a church. It is Venice.

It is interesting to note that Turner made drawings of the approach to Venice from Mestre as well as from Fusina. Another of his drawings is a sunset scene on the Grand Canal, in which can be seen the dome of the church of San Simeon Piccolo. To Turner Venice was, according to Ruskin, the joy of his heart no less than his great teacher. For if the Alps brought him always sadness Venice was his delight. But his disciple considered it was happy for Turner to pass away before seeing what modern Venetians and English visitors had made of the city.

Canaletto must have rejoiced at the opportunity to represent the church of San Simeon Piccolo. As it was commenced in 1718 he could have watched the progress of the works. It was called Piccolo in order to distinguish it from the older church, San Simeon Grand. It was erected mainly at the expense of the Foscari family. It was raised to a rather unusual height in order, no doubt, to escape floods, and advantage was taken of the circumstance to construct vaults in imitation of the Roman catacombs. The altar-piece was painted by Vittori Carpaccio. The house beyond it, which recalls the earlier style of Venice, is still in existence. Nearly opposite is the church of S. Maria di Nazareth, commonly known as Gli Scalzi. It was erected for the Order of the Discalced Carmelites. The Order already possessed another church. It was in favour with the Venetians, and this is suggested by the numerous statues found in the niches of the façade and surmounting the pediment, and by the rich altars within the building. Several of the paintings are by Tiepolo. On the same bank was the parish church of Santa Lucia. But a clearance had to be made of the buildings on that side of the Canal for the purposes of the railway, and the Scalzi may therefore be said to mark the difference between the old times and the new.

Although the Canal continues to flow as in the days when Venice was powerful, the railway premises reveal how much of the interest of the waterway was owing to the fine architecture, and especially to the examples which recalled the relations with the East. For as Mr. Thayer says:—

> Were the Grand Canal lined with a succession of Grimani palaces, had Palladio built St. Mark's and Scamozzi the Ducal Palace, Venice, incomparable in beauty, would never have been. For it is not the Lagoon and the canals, not the turquoise sky or gorgeous sunsets, not even the strangeness of her site, that makes Venice; it is the beautiful works of man. With Longhena the series of great builders ends. In the Pesaro and Rezzonico palaces he reached the limit of neo-classic correctness, in the church of S. Maria della Salute; he foreshadowed the Baroque, which he elaborated in the church of the Scalzi. The cycle of evolution has come round: after long trials Beauty, then Correctness, then Rigidity, and at last, in the attempt to break loose from the strait-jacket, Contortion, Whim, Folly.

THE SOCIETY OF ARCHITECTS.

THE following annual report of the Council was submitted to the general meeting on Thursday:—

—Your Council is pleased to be able to report that the twenty-first anniversary of the foundation of the Society finds it in a very satisfactory condition both as regards membership and general well-being. Since the last annual meeting there has been an unusually large number of applications for admission, out of which seventy-five have been elected to membership of the Society. The register of students has also been increased by twenty. Allowing for withdrawals and deaths, the total membership is now 703, being a net increase of seventy-five. Among the deaths which have occurred during the past year are those of a past president, Mr. H. R. Gough; the Society's solicitor, Mr. Edgar Farman; one member and two past members of the Council, Messrs. J. C. Jackson, E. Tidman and G. H. Guillaume. These members had for many years worked assiduously for the Society, particularly in the cause of registration, and their support and assistance will be greatly missed. The vacancy on the Council caused by the death of Mr. J. C. Jackson, was filled by the co-option of Mr. T. F. Tickner, of Coventry; and Mr. H. H. Richardson, of 2 Broad Street Buildings, E.C., was appointed solicitor to the Society in place of the late Mr. Farman.

The Students' Section.

The bi-annual design competitions are now an established institution, but the proportion of students on the register who take advantage of them is very small. Your Council invites suggestions for popularising these competitions or for substituting for them some scheme which will meet with more support. What is wanted is something which will attract and attach the junior members of the profession to the Society pending admission to full membership, at the same time giving them all the help possible in their studies. The subjects for the last two competitions were:—(*a*) A block of shop property in a country town; (*b*) Measured drawings of a pulpit. The successful competitors were:—(*a*) E. Shirreffs, Greenwich, and M. Williams, Carmarthen (equal). During the session a lady, Miss Annie Hall, of Cheltenham, was admitted to the register of students.

London Building Acts (Amendment) Bill.

Your Council, having been invited by the London County Council to express its views on the Bill promoted by them to amend the London Building Acts, had the matter under consideration and expressed the opinion that if legislation on the protection of life from fire was necessary, it should be dealt with separately, and that the proposed Bill to amend the whole of the Acts was quite unworkable in its present form. The time, however, suggested by the London County Council in which to make detailed suggestions for amendment being very short it was impossible to make any but general observations. Subsequently all the Bill was dropped except that portion relating to the protection of life from fire, and after amendment in both Houses received the Royal assent. Later the Society were again invited to make detailed suggestions for amending the Building Acts upon the basis of the former Bill, and these are still engaging the attention of a committee of your Council, whose report is not yet completed.

Social Functions.

On May 3 a party of members paid a visit to the Building Trades Exhibition at the Agricultural Hall, by the kind invitation of Mr. H. Greville Montgomery, who afterwards entertained the visitors to tea in the Welcome Club. The annual dinner was held on May 19 at De Keyser's Royal Hotel, and was well attended. The president, Mr. Walter W. Thomas, occupied the chair, and a number of distinguished guests honoured the Society by their presence. The function was in every way a success. On June 2 a party of members and their friends visited Chester and Liverpool under the guidance of the President, who had arranged a very comprehensive programme. At Liverpool the members were most courteously received and entertained by the civic authorities, while the hospitality of the President and Mrs. Thomas added greatly to the pleasure of the visitors.

Architectural Association Building Fund.

In recognition of the work which the Association is doing in the cause of architectural education, and which is essential as a preliminary to statutory qualification, your Council, in pursuance of the policy outlined in the President's opening address, gave a donation of 50*l.* from the funds of the Society towards the new premises fund of the Association.

Extraordinary Road Traffic.

The Institute of Builders called the attention of your Council to the practice of county and urban authorities exacting payment of considerable sums of money on account of extraordinary traffic on roads over which materials are hauled for buildings, urging that as these charges add to the cost of the work, and have eventually to be paid by the employer, they should be arranged with the authorities beforehand. It was further pointed out that, there being no recognised system of charging, parties tendering do not compete on equal terms, as there is generally insufficient time before tendering to obtain definite information on this point. Your Council brought the matter before the members through the medium of the "Journal," and refer to it again here, as it is clear that, owing to the rapid development of rural and other districts, the question is becoming one of importance, though perhaps more so to the building-owner than to the architect.

Municipal Architects.

For some time past your Council has had under consideration the tendency of local authorities to place the designing and supervision of their public and municipal buildings in the hands of officials, without due regard to the question as to whether they had had the special training necessary from an architectural point of view to properly undertake such work. A memorandum was therefore issued by your Council to every local authority in the kingdom, suggesting that where a qualified architect is not already permanently retained as an official of a local authority, it is desirable they should engage the assistance of a competent architect in designing and carrying out their buildings, or where such permanent appointment is not possible that the architectural work should be placed in the hands of a qualified local architect. The members were notified of this and were asked to co-operate in getting the matter referred to a committee of the local authority concerned.

The Library and Reading Room.

Your Council has expended a considerable sum of money in the purchase of new books, and a number of members have come forward with gifts of books or donations to the library fund, so that there is now the nucleus of a useful collection of modern works of a practical nature at the disposal of members, and which it is the intention of your Council to supplement from time to time. Members are reminded that most of the books may be borrowed, and that in the case of those residing at a distance the volumes can be sent by post. Inquiries for books, principally of a practical character, are constantly received, and a considerable number has been sent out on loan. Your Council desires to thank those members who have contributed in money or kind to the library, and to express the hope that others may emulate their example. The reading-room has been found useful on several occasions by members, especially those from the country as a rendezvous for their clients. The room may be reserved by giving notice to the secretary, and it is open all day during office hours for those wishing to see the professional journals or transact business.

Statutory Registration.

Quite recently the committee appointed by the R.I.B.A. to consider this question has made its report, and has come to the conclusion, arrived at so many years ago by the Society, that the satisfactory training, education and examination of architects can only be secured by statutory powers. With this object in view the committee has drafted a Bill embodying this principle, which is to be presented to the general body of members of the R.I.B.A. at an early date. Under these circumstances your Council proposes to continue its policy of watching and waiting, until something definite has been arrived at by the senior Institution. In the meantime, the members of the Society may be assured that the Council is alive to their interests in this matter, and will resume its active propaganda when and as soon as the occasion requires. The Society's Bill has been again before Parliament during the recent session, though in common with many other private members' bills it has been unfortunate in the ballot, and consequently has not secured a second reading. The Society was favoured during the session by a paper on the subject of registration from two members of the R.I.B.A. Council, and your Council has reason to believe that the discussion which followed did much to clear the air and to show what the desire of the Society really is in this matter. Your Council has, so far, every reason to be fully satisfied with the result of its policy and its attitude on this important question. It would seem extremely probable that in the near future some measure on the lines consistently advocated by the Society will be agreed upon by the general body of the profession.

Ownership of Drawings.

Your Council has had under consideration the case of Gibbon *v.* Pease, in which the client claimed from the architect all the letters, drawings, specifications, sketches and memoranda referring to the buildings as being the personal property of the client. The case resulted in favour of the client, and the architect endeavoured to get the decision reversed, but was unfortunately unsuccessful. Your Council considered the case of such importance to the members of the Society and the profession generally, that after prolonged and careful consideration it decided to contribute 50*l.* toward the costs of the appeal out of the funds of the Society. This decision was communicated by circular to the members, who were invited to subscribe towards the defence fund, and in a number of cases the invitation was responded to.

The Qualifying Examinations.

The half-yearly examinations have been held during the past year in London and Manchester, the latter being again under the supervision of the local honorary secretary, Mr. T. Cook. The number of candidates continues to increase, but the percentage of successes is very small. The Gold medal of the Society has been won for the second time and has again gone to Wales, the winner being Mr. D. Griffiths, of Porthcawl. Your Council has been considering the question of extending the scope of the examinations by forming centres in various places abroad, and preliminary arrangements are already in hand for a centre at Bombay, and inquiries from South Africa are being dealt with.

Papers and Discussions.

During the past session papers have been read and discussions held on the following subjects:—1904—November: Presidential Address; December: "The Ownership of Drawings" (discussion). 1905—January: "Some Historic London Buildings," by T. R. Croger; February: "Lighting of Buildings by Gas and Electricity," by B. R. Tucker; March: "Metal Work as applied to Lighting from the Middle Ages to the Present Day," by G. W. Pridmore; April: "Portland Cement," by H. K. G. Bamber; May: "The Statutory Qualification of Architects," by G. Hubbard, F.R.I.B.A., and A. W. S. Cross, M.A., F.R.I.B.A.

Queensland Timbers.

Through the instrumentality of Mr. H. G. O. Thomas, a member, of Brisbane, the Department of Public Lands sent some small samples of timbers for the use and information of the Society and with the object of ascertaining their suitability for home use. Your Council submitted the specimens to Professor Henry Adams for inspection, and they were also seen by Professor Boulger, an expert in forestry and timber. These gentlemen were unable to speak very definitely as to the probability of the utility of the various kinds of wood, and they point out that only time and opportunity can prove their value. The specimens are on view in the reading room and members can inspect them at any time.

Local Honorary Secretaries.

Mr. A. R. Galbraith, Portsmouth, having kindly offered to act as local honorary secretary for that district, your Council has been glad to avail itself of his services.

Generally.

A marked feature of the past year's working has been the very considerable addition to the membership, largely as a result of co-operation on the part of the members. The minimum which your Council suggested (1,000) has not yet been reached, but it has been demonstrated that its realisation is only limited by the personal interest shown by members in the Society. Your Council hopes that efforts in this direction will not be relaxed, as additional strength and support is necessary in carrying on the Society's work, particularly in the direction of registration. The financial position of the Society is sound. Your Council has added to the reserve fund, which now stands at 1,100*l.*, and could have done more in this direction, but that it believes to a reasonable extent the funds of the Society should, after providing for its proper working and the immediate interests of its members, be devoted to the objects for which the Society was founded, viz. the advancement of architectural art and practice generally, and the maintenance of the interests of the profession, hence its contributions to the "Pease" appeal fund and to the building fund of the Architectural Association, which are referred to in detail in another part of the report.

DISCOVERIES AT GEZER.

THE quarterly statement of the Palestine Exploration Fund contains an account of some discoveries at Gezer during excavations now terminated by lapse of the firman. Mr. Stewart Macalister has found a connected series of artificial caves, which obviously have been used as burial-places. Most of them have been plundered at an early date, probably about 600 B.C., and by workmen who broke into them when excavating cisterns in the limestone rock. Here and there, however, a few things escaped their notice, and one deposit was untouched. Besides pottery, Mr. Macalister found some beads, one or two objects in ivory, a few gold ornaments and several scarabs, sometimes in gold or silver mounts. These were of various materials, and all belong to the Middle Egyptian Empire, or about 2,500 B.C., an approximate date which accords with the pottery. In the floor of one chamber are numerous cup-marks, of unusually large size and arranged in rude oval patterns. This rock-hewn cemetery was probably closed more than 4,000 years ago, and first disclosed by the cistern-sinkers some fifteen centuries later. This throws light on a fact which hitherto had perplexed the explorers. In the upper débris at Gezer Middle Empire scarabs are rather unusually abundant, mixed with the late Assyrian remains. The plunder of these tombs would "let loose a flood of scarabs" over the city and bring about this intermixture of ancient Egyptian with the modern Assyrian. Remains of importance have been found in other parts of Gezer, including two tombs, constructed of masonry and containing skeletons in an extended position, the date of which is probably about 1000 B.C. (in one was an iron knife). But the rock-cut cemetery has a special interest, by proving a close intercourse between Egypt and Palestine during the Middle Empire, and indirectly, as Mr. Macalister shows, by adding to the probability that the early date for King Naram-Sin, asserted by Nabonaid of Assyria, was correct.

LIVERPOOL CATHEDRAL.

AT a late meeting of the Rural Deanery of Bootle the Rev. R. F. G. Smethwick described the progress of the works at the Liverpool Cathedral. He said that most of the work on the deep or cemetery side had now been completed up to the ground level, and the foundations of the chapter-house were practically finished. The rest of the work was well in hand, and it was expected that the entire foundations of the portion now being dealt with would be ready to receive the superstructure by March 1906. The cost of those portions of the cathedral now contemplated by the committee would be considerable, and probably an inclusive estimate would be found to approach nearly to 400,000*l.* A sum of at least 70,000*l.* was still needed. This portion included the lady chapel, for which 25,000*l.* was provided by members of the Earle and Langton families, and the chapter-house, for which provision was being made at a cost of 10,000*l.* by the Freemasons of the Province of West Lancashire. It also included the choir, the central space, the transepts and the lower portions of the tower. The erection of the lady chapel would be proceeded with without delay, and this would be the first portion of the cathedral buildings to be opened, possibly in four or five years. A few years later they might look for the completion of those portions of the main structure of which the foundations were now being prepared. When the choir was completed and ready for Divine service the committee would receive from the Ecclesiastical Commissioners under their Act of Parliament property which would yield an endowment for the cathedral chapter-house. The committee thought that the prospect of having such a large portion of the cathedral completed and available for use within the next few years, together with a substantial endowment for a cathedral staff, ought to appeal strongly to the liberality of Churchmen. As to what they were doing as a deanery towards the building of the cathedral, he was afraid they were hardly doing what they might do. They required more parochial organisation, and each parish should aim at raising a definite sum. Up to the end of last month the total amount collected in the deanery was 839*l.* 3*s.* In addition, several amounts had been sent direct to Liverpool.

NOTES AND COMMENTS.

Although the Selborne Society has existed for ten years, the aims of the founders are not sufficiently known. The Rev. Gilbert White surprised the learned men of the eighteenth century by demonstrating that in a remote parish of Hampshire, not only a naturalist but an archæologist could find materials for study. It is the desire of the Society to preserve the memory of Gilbert White, and to induce others to imitate him although at a distance. Especially it is hoped by the efforts of the members to preserve scenes of natural beauty and relics of antiquity. It is now recognised that nature study is a desirable element in education, although it may be a long time before it is systematically followed in English schools. Antiquities are supposed to be watched over by influential societies. But it is well known that remains are often injured by the ignorance of the humbler inhabitants of the country. A little knowledge would prevent vandalism, and if there were more branches of the Selborne Society it could be easily imparted.

Which is more economical, the purchasing of ready-made furniture and fittings or having them designed by an architect? That is a question on which the London County Council and the Woolwich Borough Council are at issue. Some months ago the latter applied for sanction to borrow 18,150*l.* to meet the balance of the cost of erecting the town hall and municipal buildings in Woolwich and the fitting and furnishing of them. It was found that the sum of 11,825*l.* was on the latter account, which the London County Council considered to be excessive, and it was suggested that economy might be effected if the furniture were not made from special designs. The sum of 11,820*l.* was made up of 1,965*l.* 10*s.* for electric fittings, telephones, &c., leaving 9,854*l.* 10*s.* for fittings and furniture. The cost of the movable furniture amounts to 5,971*l.* The Borough Council have since pointed out that the furniture necessary and proper for buildings such as a town hall could not possibly be bought ready made, and that the extra cost, if any, of having the furniture made to the design and under the supervision of its architect is more than saved by the excellence and lasting quality of the work and material thus insured. The subject has been considered by a special committee of the Woolwich Borough Council for over twelve months. The London County Council, on the other hand, continue to believe that the expenditure on furniture is excessive. But it is proposed to approve of the loan on condition that principal and interest will be paid within ten years. It is needless to say that the Woolwich Borough Council have acted in the most sensible way, and also in the most economical, for the ratepayers.

The discovery by French soldiers of the zodiac on the ceiling of the temple of Dendera, in Egypt, drew attention to ancient representations of the zones of the heavens. The building was a late one—only 1,800 years old—but it was not the first to contain that class of decoration. A small book by the Rev. A. B. Grimaldi, M.A. (London: Gall & Inglis), shows that the Babylonians were also familiar with zodiacs, and for people in all ages those signs were interesting. In a Paulist church in New York the ceiling has a star map, showing the position of the planets on January 25, 1885, the Feast of the Conversion of St. Paul. Planetary figures were painted on the ceiling of the Boston Library in 1890 by Mr. Sargeant, R.A. William Burges introduced them in Cardiff Castle, and they were a favourite subject in England in Mediæval times. Mr. Grimaldi in his pages refers to 1,444 examples, of which about 900 are originals. The collection is remarkable and shows the fascination of the subject. Vulcan utilised the planets around the shield of Achilles, and his example has been followed in a wonderful variety of applications. Belgium appears to have utilised the signs for pictorial postcards.

"Suburban Houses," by Mr. J. Herbert Pearson, architect, and published by Messrs. E. & F. N. Spon, may be described as presenting eight designs of an unpretentious character on forty-six plates. As they are drawn to a uniform scale and there are no perspectives, builders will consider them to be well adapted for use. Mr. Pearson says "the plans are essentially arranged to suit plots with narrow frontages, and the elevations are designed to obtain architectural effect at a minumum of cost." There are descriptions of the designs and arts of construction, but the cost of the houses is not suggested.

ILLUSTRATIONS.

WESTMINSTER CATHEDRAL: ENTRANCE DOORS.

In the Roman Catholic church the portals were supposed to have a symbolic significance. As was the case with the Temple of Janus in Rome, much was expressed when they were opened or closed. As a rule all people could enter through them, but on occasions they were closed against the mightiest of rulers. A picture by Rubens in the National Gallery represents one occasion when St. Ambrose refused to allow a monarch to pass into the cathedral of Milan. As a consequence importance was suggested by the architects to that part of churches and cathedrals in the Romanesque period, especially on the Continent, and it was continued through the Gothic period. English doorways, for some unknown reason, were less impressive than those seen in France and elsewhere. The late John F. Bentley realised that an opportunity was afforded him, and he made the entrance doors among the most interesting parts of his Westminster Cathedral. The preparation of the doors was entrusted to Messrs. Elliott, of Reading and Newbury. They are made of crown Austrian selected wainscot oak, and as will be seen from the illustration, are arranged in panels. Each is about 6 inches thick. The work, simple as it may appear, occupied the firm for nearly nine months, and is a most creditable example of English woodwork. The mounts are of bronze.

ONAWAY, HALF MOON LANE, NORTH DULWICH.

CRAVEN HOUSE, KINGSWAY, W.C.

The upper part of this building, which is the first one erected at the Holborn end of Kingsway, consists of offices, while the ground floor is adapted for shops, and there is a large show-room at the back. The material employed in front is Portland stone, and the whole construction is fireproof throughout with Mack partitions. The architect is Mr. Hy. Tanner, jun., A.R.I.B.A.

CATHEDRAL SERIES.—WAKEFIELD: NAVE AND CHANCEL FROM WEST END.

HOUSE FOR R. MURRAY HYSLOP, ESQ.

CHRIST CHURCH SCHOOL AND INSTITUTE, BECKENHAM: THE HALL.

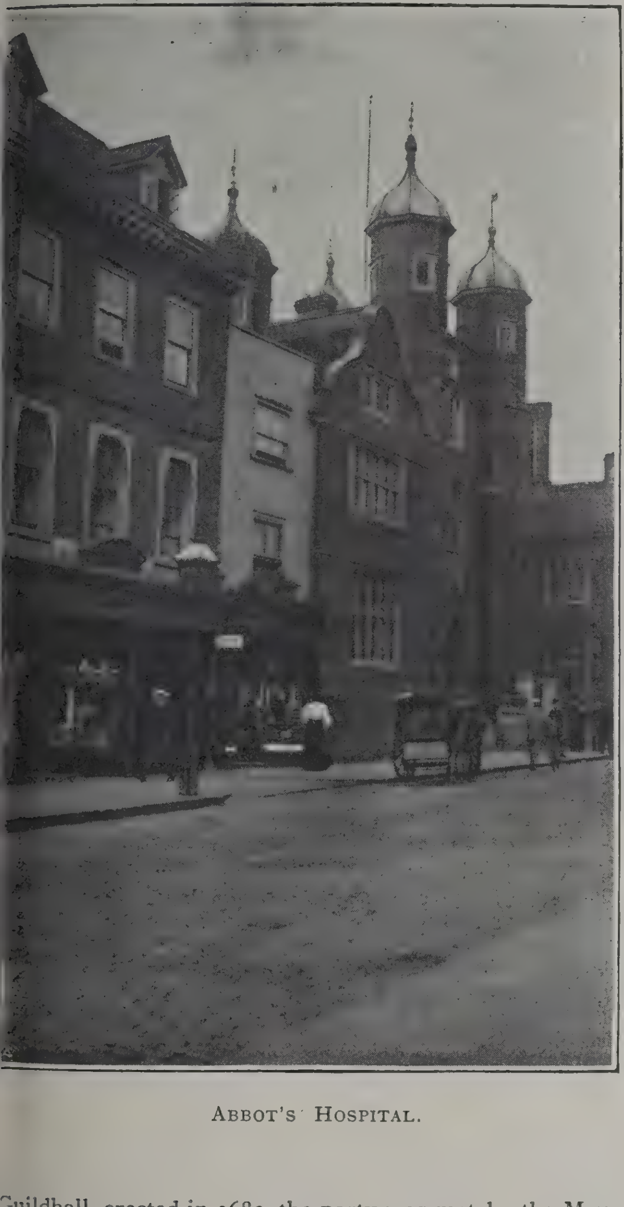
HOUSE FOR W. A. BENEY, ESQ.—PORTICO OF HOUSE.

KING EDWARD'S MANSIONS, WALHAM GREEN, W.

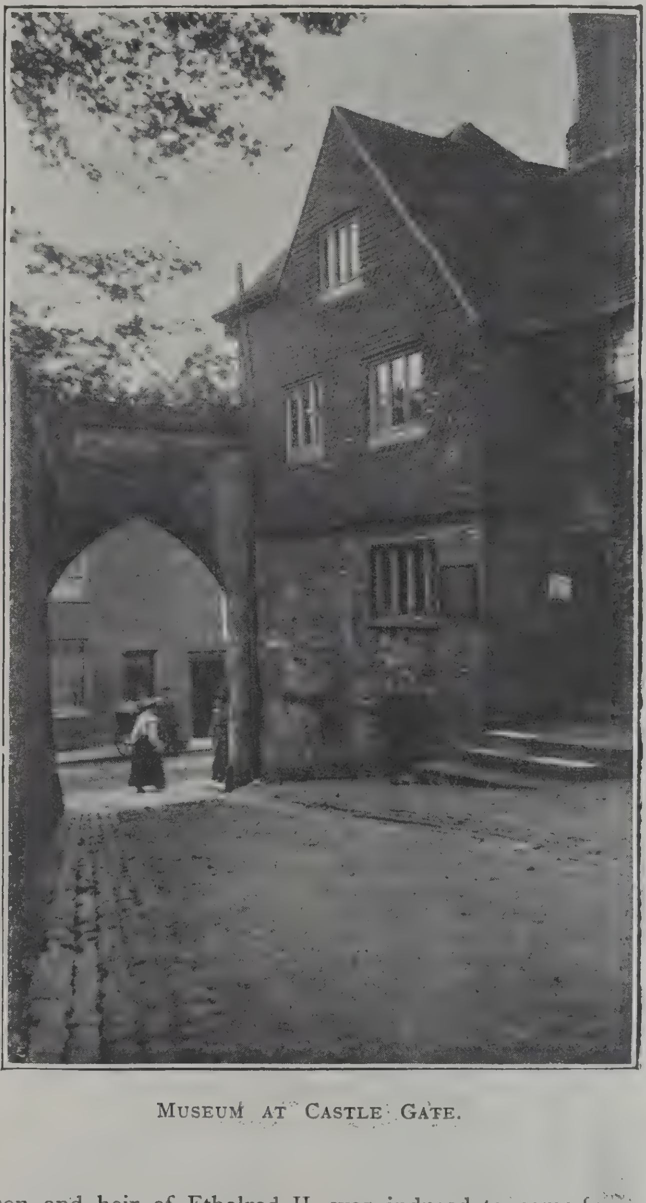
The building, of which an illustration appeared in our last issue, is to be erected on the main Fulham Road, close to Walham Green station, to consist of a handsome block of shops with residential flats over. The elevation of the building towards Fulham Road is grouped around a spacious and dignified court-yard, and is to be carried out in red brick with terra-cotta dressings and green slate roof. Each of the upper floors of the building contains eight well-arranged high-class flats. The architects are Messrs. Palgrave & Co., and Messrs. L. Whitehead & Co., Ltd., of Clapham, are the contractors.

GUILDFORD.

THE ninth ramble of the season of the members of the Upper Norwood Athenæum was held on Saturday, September 16, when Mr. R. Darney conducted them to Guildford. Proceeding, on arrival, to the castle keep, the building was inspected, and the museum of the Surrey Archæological Society came in for a share of the members' interest. From the Norman citadel the next step was to Archbishop Abbot's hospital, founded by that prelate in 1619; a red-brick building with stone dressings, having many points of similarity to Archbishop Whitgift's foundation in Croydon, visited by the Society in the early part of the year. Here the master very kindly performed the honours of the hospital, and pointed out all matters of interest to the visitors—the portraits of Wycliffe, Fox and other worthies in the dining-room, the "strong-room" where the Duke of Monmouth was lodged after his defeat at Sedgemoor, the stained-glass windows and the chapel. At the Guildhall, erected in 1683, the party was met by the Mayor of Guildford, and its interesting features were noted—the clock dial with knots and decorations of gilt ironwork, the chimneypiece from Stoughton House, the Mayor's staff presented by Queen Elizabeth, of ebony with silver top, bearing the town arms and the inscription, "Fayre God, Doe Justice, Love Thy Brether." Some standard bronze measures of the seventeenth century for bushel, gallon, quart and pint were seen. The crypts under the Angel Inn were next visited, and tea was taken at the same hostelry, after which the following paper by Mr. Darney was read in the "coach"-room. This title is a survival of the times when the London and Portsmouth coaches "dined" at the Angel, the room being set apart for the passengers by those vehicles.



Abbot's Hospital.



Museum at Castle Gate.

The origin of the name of Guildford, together with much of its ancient history, has always been a matter of controversy amongst antiquaries. A commonly accepted view is that the name comes from Guild or Gild, a trade company, and *ford*, from the passage of the river. But seeing that the name was extant before trade guilds could have been in Guildford, some other explanation seems necessary. Camden says that in Saxon times the town was called Guldeford or Gavelford, a little island or heap of sand dividing the river Wey into two streams.

Although no notice appears in British or Roman annals of the town, it is supposed to have been the site of a Roman station. Alfred the Great owned the town and perhaps lived here; his nephew, Ethelwald, and other Saxon princes also resided here. It is said that Alfred's invention of the notched candle to tell the hours of the day originated in Guildford.

A tragedy which seems to have greatly moved the people occurred near the town. When Alfred, the eldest son and heir of Ethelred II., was induced to come from France to England by Earl Godwin, and when near Guildford, accompanied by 600 Normans, he was seized, the Normans were tortured and killed, whilst Alfred, after being carried from place to place, was killed at Ely.

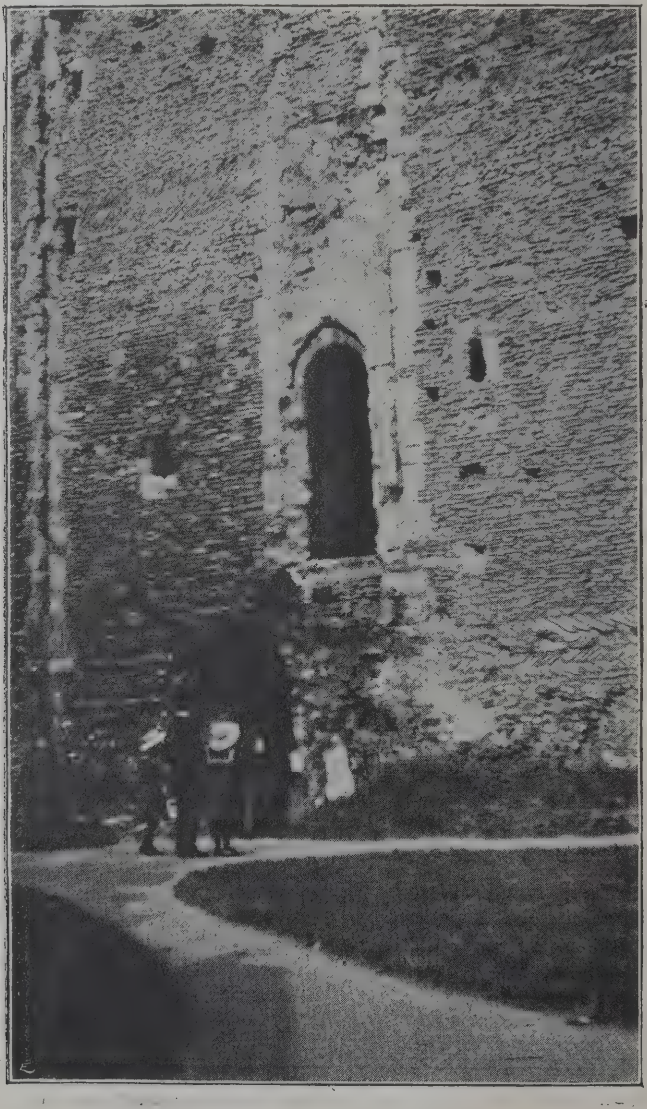
Very little is recorded of Guildford up to the time of the Conquest. The castle and manor were in charge of the Testards (Testa de Neville) up to and about the reign of Henry III. The manor was held by the service of supplying laundresses for the royal household, of dismembering criminals sentenced to death in the verge of the court, also measuring the gallons and bushels belonging to the same. The Testards, Robert Testard especially, 1234 to 1254, erected or altered many of the buildings above and below the castle, and also the churches of St. Mary and Holy Trinity. There was a royal residence in Guildford, and

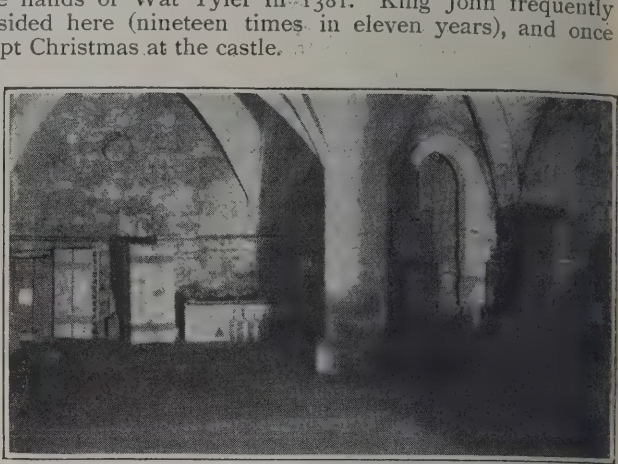
Henry II., John, Henry III. and Edward I. lived here. Edward I. was brought up here as a child, and had a nursery amongst these buildings.

A flourishing cloth trade existed in the town in the sixteenth century, and many efforts were made to preserve it. An order was made at one time that all the inns should have a woolsack painted on their signboards. But this advertisement did not prevent the gradual decay of the industry.

Tradition says that the old town stood on the west side of the river, and that the castle extended from the Angel westwards and to the church of St. Mary eastwards. The square castle keep was erected in the twelfth century. There was possibly a fort in Saxon times, and the mound may be of Early English date. These mounds were made by taking the earth dug from a ditch and piling it up in the centre. This was defended by palisades of wood, and on the top of the mound was usually a wooden house. The palisades were replaced in the case of Guildford (I am quoting now from Mr. Malden) by a stone wall, or shell keep, with chambers against it inside. Portions of this still exist. The wall, with a brass plate let into it, is part of the Norman shell keep. The outworks of the castle extended across Quarry Street. There was an outer gate across Quarry Street where the remains of the castle can be seen in the grounds of a private house. The lower part of a corner tower is under the King's Head Inn. The outside wall ran up Castle Street, following the line of the street, and joined the old south ditch of the town, where four roads meet.

There are foundations of a strong wall between the castle and the High Street running parallel to High Street. It is uncertain whether this was the wall of an outer ward of the castle to the north, or the wall of a very early town of Guildford, a small place nestling under the castle mound and wall. Its line is about 35 feet south of the High Street; it is not now visible. The castle is first mentioned in 1173, then in 1202 and again in 1216, at which date it was taken by Prince Louis of France and the Barons when in pursuit of King John. It was recovered by Henry III.'s Regent in 1217. It was kept by the Governor when the town was in the hands of Wat Tyler in 1381. King John frequently resided here (nineteen times in eleven years), and once kept Christmas at the castle.


Ancient Entrance to Keep.


Crypt under the Angel.

The entrance to the square keep was by a door some 15 feet above the present entrance, approached by a stair from the outside. It communicated with the ground floor, probably by a trap door. This lower floor was most likely used as a store-room, as the dungeons of Mediæval castles are more often at the top than on or under ground. The height of the entrance door of the keep from the ground would not have inconvenienced much, as the keeps of castles were only inhabited during a siege. The outside arch of the ancient entrance is Gothic, whilst the inside arch is semicircular. The entrance to the keep on the south side is supposed to have been made in order to deceive an enemy as to the real entrance. The square holes in the outward walls were made to take beams, which laid upon the walls crossways, and, secured by weights, supported the planks in lieu of scaffolding when the castle was being built. The ruined buildings south-west of the mound near the castle arch are the royal apartments used and chiefly built by Henry II. and John, and extensively altered and repaired in Henry II.'s time. The remaining wall with a window and old buttery hatch (blocked up) is the end of the king's great hall, which ran east and west. The castle in 1612 was granted to John Carter, of Guildford, and held by his descendants till 1813. He tried to live there, and opened the larger brick windows in the keep. It was given up as a house during the civil wars and dismantled. In 1813 it was sold to the Duke of Norfolk; his son sold it to Lord Grantly, and later the Guildford Corporation bought the site for 2,200*l*.

One of the most interesting buildings in Guildford is Abbot's hospital, whose beauties the master has so well described this afternoon. Archbishop Abbot was the son of a clothworker in Guildford, and was born here in 1562. His mother, according to the story, before her son was born dreamt that if she could eat a pike her son would be a great man. A few days afterwards she took a bucket of water out of the river, and in the water, marvellous to say, was a pike. Camden says the dream was attested to him by the minister and several of the most sober inhabitants of the town. The house that Abbot was born in was close to the bridge, but has now disappeared. Whether it was owing to the miraculous incident of the pike or not, it seems that young Abbot was befriended by some wealthy people and educated at the Grammar School and Oxford. He was one of the persons appointed by James I. to make the Authorised Version of the Bible. He was made Bishop of Lichfield in 1609, Bishop of London in 1610, and Archbishop of Canterbury in 1611. So his promotion was rapid. He was Puritan in his views, and serious disputes arose between Laud and himself. The archbishop had the misfortune to shoot a man by accident, and to this misfortune the town probably owes the building of the hospital by the archbishop as an act of penance. Laud, just at that time made Bishop of St. Davids, gave that as an excuse for refusing to be consecrated by the archbishop.

Owing to the violence of the religious differences in those days, it is difficult to judge from contemporary records what the true character and disposition of Archbishop Abbot was. He did what he could to revive the trade of the town, and in founding the hospital says:—"He held it agreeably to his duty to leave some monument of his thankfulness to his Creator and some testimony of his faith in Jesus Christ." Camden says the hospital was endowed by Abbot with and valued at 300*l.* per annum, 100*l.* of which was to be employed in setting the poor to work and the other to maintain a master, twelve brethren and eight sisters, who are o have blue cloaks and gowns of the same colour, and s. 6*d.* per week. The writer further says that although Abbot was a benefactor to the place, he was no friend to the Church of England, whereof he was head, but scandalously permitted that poisonous spirit of Puritanism to spread all over the nation. The statutes for the hospital say that the nmates must be unmarried persons of not less than sixty years of age, born in Guildford, or residents of the town for wenty years. The Duke of Monmouth was confined in the ower of the building when being taken as a prisoner to London. Abbot lived until 1633, and died at Croydon.

A portion of the town hall dates from Queen Elizabeth, but the front and Council chamber were erected in 1682. The fireplace in the Council chamber, the portraits and he Mayor's ebony staff presented by Queen Elizabeth are worth noticing. The old hall stood across the street, but was pulled down.

The tower of St. Mary's Church dates from the time of Edward the Confessor. The two original double splayed windows north and south were originally outside windows but now opened into the transept. The early Norman arches under them have been pierced, the outside walls of the tower without regard to these windows or to the flat Anglo-Saxon buttresses running up the wall.

An interesting letter appeared in *The Architect* some ime since in reference to the two crypts, one under the inn the Angel) we are now visiting, and the other across the road. Dr. Williamson, the writer, says both crypts are of he same epoch. That of the Angel is 32 feet 3 inches by 19 feet, with groined roof supported in the centre by two columns, 5 feet 6 inches high by 18 inches diameter. The columns have no capitals. There are sculptured corbels representing human heads, also signs of frescowork in the north crypt, and in the south-west bay also traces. They re painted red and white, and are supposed to represent he Flight into Egypt. There is little doubt that on the ite of this hotel stood the hostel of the White Friars. The convent was probably on the south side of the street. The Fish Cross or market, at one time opposite the Angel, was said to have been erected by the White Friars in 1345; t stood until 1595, when another building was erected to nswer the purpose. The Carmelites were usually called White Friars from the white cloaks they wore. It is not probable that the crypts were used for religious purposes, but were most likely storage places. All the work is in chalk and well executed.

The hostel would be dedicated to St. Michael and All Angels, from which the present inn probably gets its name. The two crypts had no connection with one another or with he castle, and Mr. Malden believes they were simply hirteenth-century wine-vaults. The Court was continually at Guildford in King John's and Henry III.'s time, and a great deal of French wine was kept at Guildford for heir use.

Guildford from time immemorial has been celebrated or its good inns. Camden says, "The Red Lion par-icularly can make fifty beds. The White Hart is not quite o big, but has more noble rooms." Pepys was several imes at Guildford, and visited Abbot's hospital. Of the ntertainment at one of the inns (perhaps the Angel) he ays, "it was mighty neat and fine."

I am greatly indebted to Mr. H. E. Malden, M.A., for his indness in sending me notes of the castle and keep.

INSTITUTE OF SANITARY ENGINEERS.

ON Wednesday, October 4, at a sessional meeting of the Institute of Sanitary Engineers, the following paper was read by Mr. A. A. Kemp, F.I.S.E., by way of opening discussion on "Estate Development":—

During the last ten or fifteen years it has been generally nderstood that, owing to the increase in the population of arge towns and cities, some rearrangement for the housing f the people must be dealt with.

This has been more or less met by opening up large reas or tracts of land on the sea coasts as suburbs, the train facilities from the different centres making it possible or those in the middle walks of life to rent small houses nd to bring up their families in healthy surroundings, without entailing further responsibilities than would be the ase if they rented houses nearer their business. This has aused very considerable depopulation of the agricultural districts, as so much land has been thrown quite out of cultivation, even so much that, round small towns in the country, some thousands of acres have been sold as building plots, which it is highly probable will not be built upon for one or two centuries. Wherever this has occurred miles of road have been marked out by something little better than a plough, the surface sprinkled in some cases with a layer of hard material, one stone thick, and dedicated as a road to the plot holder.

Drainage, gas and water is seldom considered, but is left to be worked out by the people who have been duped into purchasing the land by some fluent auctioneer.

This class of property is seldom, if ever, in the market for a longer period than one year. It is bought up, in the first instance, at a very cheap rate, divided into small plots, and advertised as being ripe for the immediate erection of villas and other buildings. What an appalling waste of agricultural districts, at a time when every one's cry is "Back to the land."

Could anything be more unhealthy than to commence a new district with roads that are not formed in such a manner as to enable them to withstand the ordinary traffic of light vehicles, much less heavy contractors' carts? The result is, ruts are formed and the road is always wet and impassable, which means to people that have been used to living in towns the breaking up of their health.

Roads made under these conditions are seldom or never built upon sufficiently to be taken over and made up by the councils of the urban or rural district in which they are situated, and the small amount of building that is carried out is left to deteriorate, or to be let at rents that are totally inadequate for returning anything like a reasonable interest on the capital which has been expended on them. Then, again, drainage is quite out of the question, which means enveloping well-drained districts with cesspools.

With this kind of land the question of lighting and water-supply is so much an impossibility that it cannot for one moment be entertained.

There are many thousands of acres which may be classed under this category, and I would suggest that some steps should be taken by the Board of Agriculture to deal with it.

It is quite clear in many instances that the land is sold for the benefit of speculators. When such estates are opened up, could they not be subjected to the local rates, as they formerly were, contributing until such time when the property to be erected upon it should pay these charges?

There should also be stipulations drawn up with conditions, either by the Board of Trade or some other body approved by the Government, laying down regulations for road-making, draining and other necessities, which are usual in towns and villages, demanding either a guarantee or deposit that such necessary work should be carried out when such authority considered it desirable.

Having briefly described undesirable estates and their disadvantages, I would now like to deal with those that are gradually growing into townships. As with everything else, estates must have a commencement, and, therefore, from the moment it is decided to develop them they are usually handed over to the care of some expert, whose duty it is to recommend to the owners what course he is going to pursue to make the proposed town a desirable district for the reception and encouragement of those citizens who prefer to live in a distant suburb. It is with this view the expert proceeds with his work, to endeavour to provide all that is necessary for the comforts of such people who intend to settle in the district. From this moment the sanitary engineer should be consulted, although some might argue what has he to do with the developing of townships? I quite agree that such work has usually been done by a surveyor or civil engineer, but to my mind it is essential that gentlemen who are experts in sanitation should deal with such extensive areas, because everything that is required for the good of the public health must be some part or parcel of the work that is entrusted to him.

The construction of roads, providing a drainage scheme, water-supply and lighting are all within his province, and therefore he should be able to carry out all these necessities for the public health.

With these remarks I should now like to assume that we have had instructions to take over an estate as described above, and proceed to the first stage of the work by making a survey. This, to many in our profession, particularly if the estate is an extensive one, will appear more difficult than it really is. As all of you are aware who have surveyed a field or building site with satisfactory results, this kind of work can be done with a chain in the ordinary way, but in many cases it is much better, and, in fact, absolutely necessary, to bring into use either a theodolite, magnetic compass or box sextant. The two latter instruments are suitable for small surveys only, and should not be used for work of any magnitude.

For accuracy there is nothing so reliable and satisfactory as the theodolite. When this instrument is used the traverse system of surveying is generally adopted.

It does occur in many cases, if a chain survey is made, that obstacles will come in the line of route, such as woods or a hill point in the centre of the land.

These places can be skirted, the angles booked and the area completed by a traverse survey. Before actually proceeding with a survey, it is always as well to walk round the land once or twice and make notes of the various positions and to fix your stations. If you can obtain an Ordnance map of the district, a rough sketch diagram should be made, marking these points and numbering the angles. If an Ordnance map is not obtainable, a rough sketch diagram must be made in the field-book, showing the position of the stations.

When traversing it is usual to commence at the extreme western station. The true north is generally ascertained by getting the meridian from the sun.

The instrument is set up about one and a half hours before noon, at the same time noting the readings on the horizontal and vertical limbs. Keep the vertical arc clamped and catch the sun on its descent by its intersection of the opposite side of the web of the instrument. Take the reading of the horizontal limb and bisect the two readings, this will give true south. Now reverse the instrument and set up a ranging rod; clamp the instrument at zero and turn to the right, recording the angle at the first station, and proceed to reach each angle round the traverse; these stations being fixed, the boundaries and set-offs can be obtained in the ordinary way.

We are now in the position to make the plan. The next thing to be done is to lay out some scheme of roads. In deciding these it is well to have them arranged so as to get as many of the houses as possible facing the south. There should be one or two roads at least with a width of not less than 50 feet; for the intersecting roads a width of 36 feet is sufficient.

All these should be well drained and constructed with even gradients. As to the best material for roads and thickness required for making a good bottom, this varies so much under local circumstances that it is quite impossible to describe what is necessary. It would be well to point out that the worst soil to contend with in road-making is clay. In every case the site of the proposed road should be lined with faggots or brushwood before any hard material is placed upon it. This should be covered with 12 inches at least of hard core, well rolled down to receive a covering of 6 inches of good pit flint, the whole to be well consolidated with a heavy steam roller. It is important that all gas and water-mains should be laid before the roads are made.

In laying out an estate for the purpose of building land, it has always been my practice to provide accommodation roads running between the plots at the rear.

In this road the sewers should be laid, as most of the houses are drained to the rear of the premises. Free access for the collection of house refuse is also given, and the constant repairs to the main street through sewer connections is greatly minimised, another great advantage being the prevention of carrying the house drains under the buildings.

When considering the question of laying out roads, spaces should be kept for parks, squares and gardens. This is a most important feature, and should not be overlooked. Having decided road-making, our next question is to provide a sewer outfall works and main drainage scheme. A few practical hints here may be advantageous.

The first stage is to take levels over the routes laid out for the sewer. In new works, where one has only a field before them and not any points that can be definitely used as bench marks such as there are in towns, it would be well to put in stumps about every two chains apart for the purpose of levelling, although I have seen these driven down and removed in some cases; thus when you are looking for the bench marks sometimes after taking the levels for laying the sewers you have no guide for fixing the sight rails. To obviate this I have found that a good plan is to have the stumps, about 2 feet long, driven until the tops are level with the surface of the ground; then to excavate round the stump about 1 foot in diameter and 6 inches deep, and fill in with cement concrete level with the top of the peg. This is rather an expensive plan, but without this the cost of labour in picking up levels from distant points more than compensates the extra expenditure, and one has a feeling of security that, whatever work he is doing, he can rely that the points he is working from are correct.

After completing the levelling and the heights above datum are marked on the plan, one can consider the best position for the sewage disposal works or outlet; if this can be arranged at the lowest point, without the cost of raising the sewage, it is of considerable importance. The capacity of these works can be easily ascertained by taking the probable population at about sixty to the acre. Provision should be made by taking the average water supply per head of population. Of course, where treatment of the sewage is anticipated, two systems of drainage are necessary, one for storm water and one for sewage. In designing a scheme for drainage, sometimes by a slight diversion of the route of the main drain through a valley or a natural watercourse, a great deal of excavating is saved, the same applying to the girthing a hill.

The capacity of the pipes required can be readily obtained from different formulæ after ascertaining the necessary data. The drains must be evenly laid, and manholes should be provided at every departure from a straight line, and ventilators should be fixed about every 100 yards apart. In rural districts the latter may be fixed at ground level with charcoal filters, but this would not be advisable when fixed close to houses; in that case shafts should be used.

An interesting discussion followed.

DUCAL CRITICISM.

At the architects' dinner in Newcastle-on-Tyne on the 13th inst. the Duke of Northumberland proposed "The Royal Institute of British Architects and Allied Societies." Speaking for the allied societies, he should say that they offered a hearty welcome to the Institute to the North country. If, on the other hand, he was to speak for the Institute, he should say that the local associations were a matter of great interest to it. It was by the strengthening of those local associations that the real work of the Institute was carried out. If he was to speak for the general public, who neither belonged to the Association nor to the Institute, all he could say was that they recognised very warmly the work which both were doing, and were very glad to see them making themselves acquainted, as far as possible, with the requirements of all parts of the country, and, on the other hand, placing their knowledge and their experience at the disposal of the public. At the same time, he thought that for the young man who had adopted the career of an architect there must be food for great discouragement. He did not think that any young architect could hope to do very much better, say, in ecclesiastical architecture, than the people of 500 years ago. Perhaps he might be prejudiced because he happened to live in a castle, but he very much doubted, so far as the æsthetic side of military architecture was concerned, whether they would do much better than some of the gentlemen of former days in that direction. Then when they came to rather later times, and they looked at their fine old manor-houses, they might give them fewer steps to go up and down than there were in the manor-houses, and he did not doubt that their sanitary arrangements might be better, but he very much doubted—they would forgive him for the scepticism—whether they would give us anything which was more picturesque or more thoroughly English. The young architect, when he reflected in that way, might be a little bit discouraged, but if he would go further he would find that there was a great field for his ingenuity and his study, even in this matter-of-fact twentieth century. He saw present many representatives of the old municipalities, and he would venture to suggest that England in the old days did not shine particularly in her great public buildings. Of course, there were some fine buildings; they had a little hall called the Westminster Hall, of which they were all proud, and other buildings of that sort. But, as compared with foreign nations, we were in ancient times deficient in our public buildings, and he believed that in that direction there was a great field for ingenuity and genius. But he saw a still larger field for their efforts. He referred to the housing of the mass of the population throughout these realms. He presumed it was, at least, one of the functions of an institution of this kind to so mould and educate public opinion—and still more to educate the opinion of the profession—as to secure that standard of building which would provide the people of this country with dwellings equal to the civilisation which we professed to have attained to. If he might say so with all respect to them, it was a problem which they had not solved. Whether it was soluble he did not know. He could only say, as one who had tried to a certain extent to build houses, that he found building a good sanitary and comfortable house for the working classes of this country, at a price which would pay a reasonable return on the outlay was—he would not say impossible, but very difficult indeed. It seemed to him that in this direction there was a very large field for the genius of the rising generation of architects. There was only one more opening which he would allude to for the energies of the architect. That was the opening which was offered by the zeal of the Board of Education. The latter imposed upon local authorities a very large number of buildings, and he did not think that the Board of Education always grasped the full necessities of the case. He would therefore suggest that members of this Institute and those whom they trained might very well devote—and no doubt did devote—a great part of their attention to assisting local bodies in the effort to meet the requirements of the Board of Education at some reasonable rate, without the necessity of covering the landscape with horrible structures such as they sometimes saw. In conclusion, his Grace said, on behalf of those for whom he spoke, he could only express a deep sense of the services which the Institute rendered not merely to art, but also to the practicalities and the absolutely essential necessities of life. There was no body of men upon whom the welfare of this country so much depended as those who had charge of the buildings in which we lived and the buildings in which we transacted our business.

OLD BUILDINGS IN SHREWSBURY.

THE Council of the Shropshire Archæological and Natural History Society have addressed the following appeal to the Town Council of Shrewsbury :—

"The Council of the Shropshire Archæological Society desire to call the attention of all who are interested in the prosperity of the county, and particularly of the county town, to the desirability of carefully watching over and preserving its many historical houses and other relics of antiquity, both secular and ecclesiastical. It is a well-known fact that no part of England is more rich in these relics than Shropshire, but the great historical interest which belongs to them is at present only imperfectly realised.

"For example, as regards the county town in particular, from the sixth century, when Uriconium was raided and burnt, on through the ages that followed, Shrewsbury has had its part in almost all the great crises of English history—some of its churches go back in their foundation to Saxon, if not British times, its castle witnesses to its position in the feudal period, while its abbey was among the greatest of monastic establishments. The friars preached in its streets and had homes by the side of its river. It bore its part in the long strife with Wales, in the contest with Hotspur, in the Wars of the Roses and in the civil strife of Charles I.'s reign, and almost all these events have some memorial still remaining. Every such memorial deserves to be treasured as a precious relic which, once destroyed, can never be replaced, and therefore any interference with the old buildings should be guarded against with the greatest possible jealousy.

"Of course these historical associations do not appeal equally to all. There are those who live wholly in the present, and to whom the past is but a name, but there is equally good reason why those who take this view should do their utmost to preserve the old-world features of the town. They are interested in the present prosperity of Shrewsbury, but it is impossible to separate the present from the past. Shrewsbury cannot compete with the large towns of the Midlands in commercial activity and briskness of business, but the one point on which it can successfully hold its own with any is its ancient buildings and historical associations; and if strangers are to be attracted to the town it is these which must bring them. It is therefore to the interest of the present that everything belonging to the past should be carefully preserved. Shrewsbury only needs to be better known to be more widely appreciated—it is less visited now, for example, than Chester, not because its ancient features are less interesting, but because they are less known, and therefore the wisdom of Shrewsbury people lies in a careful preservation of its ancient character, combined with widespread information as to its interest in this respect. On the Continent many towns through their municipal authorities have adopted stringent by-laws forbidding the destruction of ancient buildings, and requiring new ones to be erected in harmony with those already standing. Such by-laws are eminently desirable in all places of historical interest, but till they exist everything must depend on public opinion, and it is with a strong feeling of the importance of the matter that the Shropshire Archæological Society venture to put forth this appeal, which they make to the members of the Town Council and owners of property and to all who are proud of their county and its towns."

MANCHESTER SOCIETY OF ARCHITECTS.

AN address was delivered by Mr. J. H. Woodhouse, the president of the Manchester Society of Architects, at the opening meeting of the Society on the 12th inst. He drew attention to the fact that the Corporation had under consideration the publication of a combined catalogue of the whole of the architectural books in the various libraries of the city, which were available for either loan or reference. That, he said, was the result of a suggestion by Professor Capper, and would be welcomed and greatly appreciated by all members of their Society. If a taste for good architecture could be formed in the minds of the majority of the citizens then possibly the ruling authorities would be encouraged to give their consideration to all that tended to improve our environment. In the matter of environment it had always been a cause of considerable annoyance to him to note that after the authorities had spent thousands of pounds in street improvements it should be within the power of the landowner to erect his building thereon with just so little consideration for architectural treatment, and no more, as would enable him to secure a desirable tenant, or it might be that the principal object he had in view was to catch the eye of the passer-by. In that he was too often successful in inflicting on a man of taste a severe shock by the vulgarity and lack of refinement of the building. Our principal thoroughfares in country as well as in town were terribly robbed of any charms they might possess by the necessity of the present overhead system of tram traction. While not expressing an opinion on the various methods of electric traction, he would say that those towns where other methods had been adopted had artistically done a wise thing. It would be a pleasure to many to learn that the small plot of land in Victoria Street at the bottom of Cateaton Street had been retained as an open space. There would then be secured to the public an interest in the old Hanging Bridge, and a valuable view of the cathedral from the lower end of Deansgate would be retained. A matter which affected the community at large was the strong trend of the present-day practitioner towards erecting our city buildings in permanent coloured materials. Was it too much to hope that the neglect of and indifference to the advantages of colour in the external treatment of our buildings by some of our practising architects would soon be a thing of the past? He suggested, in order to secure for the benefit of the citizen a higher ideal in the artistic treatment of the city, that a small qualified advisory committee should be appointed, to whom should be referred all matters of an artistic character.

CHARLOTTENBURG TESTING LABORATORY.

DURING the course of the year 1903 the laboratory for the testing of materials of the Charlottenburg Polytechnic school was transferred from the city of Berlin to one of its suburbs, Gross-Lichterfelde, and there combined with the chemical laboratory of the Berlin Academy of Mines. The resulting institution, under the title of "Königliches Materialprüfungsamt," embraces the experimental study in all its branches of the materials utilised in the industries, and for this purpose the most complete and improved modern testing machinery and instruments were installed in its buildings.

The idea of testing materials is, says Mr. Ramakers in the *Scientific American*, so to speak, as old as civilisation itself. Even in primitive times the making of a tool or a weapon must have been immediately followed by a testing of the same, and while modern science has of course vastly changed the *modus operandi* of these tests, the fundamental purpose of the investigations is the same to-day as it was in the bygone ages. The development, however, of this branch of engineering did not assume anything like its present proportions till toward the middle of the last century, and during this period the first great strides forward were made.

The completeness of the Gross-Lichterfelde establishment, a partial description of which follows, demonstrates the great importance that is at present attached to the question of material testing. The origin of the Charlottenburg laboratory dates back to 1863, when Wöhler conducted a number of tests at Frankfort-on-the-Oder. In 1870 it was moved to Berlin, where a series of tests by Spangenberg were made, and in 1884, when it was joined to the Polytechnic school, its staff consisted of but fourteen persons. At the time of the establishment at Gross-Lichterfelde the number of employés had been increased to 107, and at present the services of 138 individuals are required to conduct the investigations carried on within its walls.

The purpose of the new institution is the testing of materials for scientific or general uses, as well as the carrying out of investigations upon the orders of civic administrations or private individuals. The members of its staff are employed in various ways; they investigate the properties of materials, determine the degree of safety of constructions of manifold kinds, fix the value of the coefficients to be used in calculations, scientific and otherwise, improve upon existing methods of testing and the apparatus for the same, advise industrial manufacturers in many ways, and similarly assist administrations and boards throughout the German Empire.

The work of the laboratory is carried on in six main divisions, that is (1) metals, (2) building materials, (3) paper, (4) metallography, (5) general chemistry and (6) oils. The institution covers an area of about 10½ acres, situated between the railway and the road from Berlin to Potsdam. The principal one of the various buildings, which are all connected by a railway, is horseshoe shaped, the machinery building and workshops being situated in the centre. It surrounds two large courtyards, which are closed at the rear end by a group of secondary buildings. The arrangement and distribution of the rooms is such that the heaviest apparatus occupy positions on the ground floors, where they are all connected by railways. These railways are also used for the weigh-bridge, the coal depôt and the boilers. The two large courts mentioned above, as well as the remaining unoccupied ground, are utilised for open-air tests. Below ground all the buildings are connected by a gallery, which carries the steam, water, gas and electric mains as well as the drains. The main building, the ground floor of which is occupied by the management, contains on the second floor the laboratory of general chemistry (fifth division); on the third, those of metallography (fourth division); and on the fourth, the photographic studio. The building forming the right wing is devoted to the testing of metals (first division) on the ground floor, and to the testing of paper (third division) on the second floor. The building forming the left wing contains on the ground floor the laboratory for building materials (second division), and those for oils (sixth division) on the second floor. These various buildings are all provided with extensive platforms, which are utilised for certain of the open-air tests.

The total surface covered by the buildings is 56,615 square feet. The surface utilised by the laboratories and offices is 40,420 square feet, while the total floor space, inclusive of the upper storeys, is 64,930 square feet. In the construction of the laboratories and administration buildings, nothing has been neglected that could add to the hygienic condition and comfort of the employés.

The steam necessary for the heating of the rooms and for the various apparatus of the central power station is furnished by boilers located in a suitable building on the north side of the grounds. In the central power station are located two 60 horse-power steam-engines, which drive two dynamos; these give 220-volt continuous current, which is used for running various motors and for lighting the establishment. Furthermore, the laboratories are supplied with water-power from two separate hydraulic mains, which are under a pressure of 200 and 400 atmospheres respectively. That the various buildings are plentifully provided with measuring apparatus designed for scientific observations goes without saying.

The division for the testing of metals comprises, essentially, two large halls, 115 and 130 feet in length by 26 feet in width. In one of these halls is located the great 500-ton testing machine that was employed in the old laboratory at Berlin, and for which it was built by Hoppe in 1891. It is designed to test materials both by tension and by compression. It has effective lengths of 55.75 and 49 feet respectively for each of these two cases. Another machine, built according to the Becker system, is used for torsional tests up to 72,500 foot-pounds, and by means of it pieces 33 feet in length may be tested. The other hall contains a machine designed according to the Borsig system for testing pipes by means of internally and externally exerted pressure. The pipes may have a length of 13 feet and a diameter of 4¼ feet. The same machine can be employed for testing blocks of masonry and concrete, and for this purpose can exert a pressure attaining 600 tons. Besides this, the hall contains a new 100-ton Werder apparatus for the purpose of testing by tension chains and cables with a possible length of 55 feet, and at the same time for compressive tests of columns up to 50 feet in length. This machine was constructed by the Société de Nuremberg, which likewise supplied the laboratory with two 50-ton Martens machines. These rather complicated mechanisms are designed to test materials of various kinds while they are being subjected to the action of heat or cold of various degrees.

In the same hall there are, furthermore, three Pohlmeyer machines built by the Ehrhardt Works, of Düsseldorf. One of these has a capacity of 100 tons, and the two remaining ones each of 50 tons. They are for the purpose of studying the resistance of bodies to pressures, acting simultaneously upon all of their faces, and it is possible by means of these apparatus to submit small-sized test pieces, located in the interior of hollow steel cylinders, to hydraulic pressure reaching 4,000 atmospheres.

The apparatus described above are all supplemented by manifold measuring instruments, for the purpose of observing all possible distortions of the bodies while undergoing the various tests. Aside from the two main halls described above, the metal division comprises various laboratories for the detailed study of the resistance of materials, especially under the effect of heat or cold. In these laboratories materials are also tested by means of repeated stresses, prolonged or alternating. A special building arranged for experiments under shock contains several dropping machines, among them an apparatus which employs the fall of a 2,200-lbs. ram from a height of 33 feet. In the part of the installation reserved for open-air tests there is a small hydraulic press for the testing of structural building materials of larger size and the measurement of the elastic distortions of staircases, roofs, vaults, &c. The metal-testing division also includes a large and complete mechanical workshop for the preparation of test pieces, as well as for the repair of machines and instruments.

The division for the testing of building materials consists primarily of a shop in which masonry stones are cut and shaped to the dimensions necessary for submitting them to the tests. A room that is devoted to tests under low temperature contains two refrigerating apparatus, each of which is capable of holding ninety bricks or a corresponding number of stones, which in the space of five hours can be brought to a temperature of minus 4 degs., measured internally. The same room contains the machines employed for testing material by wear, especially by the action of a sand blast. In the moulding shop there are mortar and concrete pug-mills, as well as an apparatus used for hammering test briquettes.

Materials for conglomeration are first sent into the crushing-room, where they are reduced to powder and sifted; another room is set aside for storing the briquettes during the period of setting. The next hall is the large one, where the tests of resistance are made. It contains, first, a 10-ton hydraulic press covering a floor space of 20 by 10 feet. Another press, the capacity of which is 20 tons, is designed for the testing of concrete or stoneware pipes. Both of these machines were constructed by the Borsig Works. The apparatus supplied for this division of the establishment by the Nuremberg Company consists of a 150-ton machine for compressive tests of brick; a 400-ton machine for testing blocks of concrete in the same manner; a 40-ton machine for similarly testing cements; and finally, a 1,300-lbs. machine for testing the tensile strength of cements. In addition to the new apparatus described above, the hall contains various other machines of the ordinary types.

The division devoted to the testing of building materials is completed by three laboratories intended for chemical, mineralogical and physical investigations. Besides these, however, large open-air spaces are reserved for its use for the testing of flooring of larger size, experiments in the resistance to fire, and the study of the influence of atmospheric conditions.

The division of metallography consists of a polishing shop for the preparation of the specimens to be examined microscopically; of a chamber of microscopy, including, among others, a splendid micro-photographic apparatus of the Martens type; of a laboratory for analytical chemical studies, and of a hall for heating by incandescence. This last is provided with measuring apparatus of the most highly improved and modern types. There is, furthermore, a room for measurements of the most precise kinds for the determination of small differences of potential between metallic electrodes encountered in different phases of the manipulation. Finally, there are a foundry and a forge for necessary repairs, preparation of specimens, &c.

The establishment of this model institution at Gross-Lichterfelde, now without a rival in Europe, required the large sum of 664,000 dols., and covered a period of four years. Of the sum mentioned 516,000 dols. was expended by the administration in charge of the construction of the buildings, while the remainder of the appropriation, 148,000 dols., was used to provide new apparatus and instruments.

DISCOVERY OF A FRESCO AT RYE.

An extraordinary discovery has recently been made at Rye. Messrs. C. Fletcher & Son, decorators, &c., have for some little time been engaged in renovating a dwelling-house in Market Street, owned by Mr. T. F. Maltby, and about to be occupied, and it was during the progress of this work that the discovery was made. The house in question, says the *Sussex Daily News*, was formerly part of the Old Flushing Inn, which enjoyed a notoriety as a haunt of smugglers many years ago. A local guide book describes the old building as follows:—

At the north-west corner of Pump Street, where it joins Market Street, are the remains of a building of some antiquity. It is now turned into a dwelling-house and offices, but was once an inn, bearing the name of the Old Flushing, at the time when the free-traders of Rye carried on an extensive and profitable commerce with the merchants of that Dutch town so celebrated for Hollands gin.

There can be now no possible doubt that the building in question is one of the most ancient in Rye. Underground there is a most capacious cellar, with a 10-feet pitch; the Flemish bricks which were extensively used in the construction of the building and the old solid oak panelling, with its frieze of Tudor roses and the letters "Ry" plainly discernible, indicating that the name of the town was spelt differently in those days, all prove conclusively that it is hundreds of years ago since the Old Flushing Inn was erected.

As a matter of fact, the title deed in connection with the house about to be inhabited refers to the southern boundary being the sea, which at that time came right up to Rye when the town was an island. The Old Flushing was undoubtedly the headquarters of the smugglers. In a part of such a building it was, therefore, not surprising that so unique a discovery should have been made as that which the decorators came across on Monday morning. Mr. E. G. Fletcher, the principal of the firm, in sounding the "wall" of the front room, ascertained that it was solid old panelling, and a small piece of plaster dropped down which, upon examination, was found to have an old English letter on the back. Then the panelling was removed, and behind it was seen a good specimen of old English fresco, something after the Michel Angelo style, effectively displayed on the plaster.

Whether the Old Flushing was at a more remote period the home of any Christian organisation or not is not known, but the subject matter of the fresco is suggestive that such was the case. It is allegorical in style and contains three inscriptions in old English lettering, one from the Magnificat, while the other two are not clearly discernible. That which can be read with comparative ease is:—

My soul magnifyeth ye Lord and my spirit rejoyceth in God my Saviour, for He hath regarded ye lowliness of His hand maiden; for all generations shall call Him blessed, for He that is mighty hath done to me great things and blessed is His name.

The style of the work and the subjects depicted are strongly suggestive that it was done in the fourteenth century. For instance, there is plainly to be seen the English and French coat-of-arms—the lions and the fleur-de-lys, reminiscent of the period when England claimed sovereignty over France. The artistic element is represented by flowers, including the Tudor rose, which are intermingled with leaves, and there are clearly depicted weird, fantastic and grotesque figures, including various types of animals, birds, &c. There are also three transverse bars, one with a red background, and the other two with green backgrounds, all bearing the words, "Soli Deo honore" (For the honour of God alone).

Considering the hundreds of years since one of the ancient master hands must have completed so strange a "picture on plaster," it is in a wonderfully good state of preservation.

TESSERÆ.

Roman Effigies.

The substances on which the ancients painted were wood, clay, plaster, stone, parchment, and perhaps canvas. The best painters, however, rarely painted on anything but tablets or panels. These panels were of wood, and prepared for painting by spreading over them chalk or white plaster (gypsum), and were called on that acccount "leukoma." All the paintings on walls were also on plaster covered with a composition of chalk and marble dust, as is fully described by Vitruvius. We are informed by Pliny that Lysistratus first of all modelled portraits in gypsum from life, and then increased the likeness by colour laid on to the plaster bust. He also made coloured copies or effigies from brass statues (which were called, as we know, "ceræ"), and these came so into vogue that henceforward there were no statues without white clay or chalk was a preparation for the wax colour, as shown by Vitruvius. That portraits in effigy were made and coloured in imitation of life had been a common practice in Rome, and there, because they were coloured, were technically called "ceræ" as well as "imagines." It was the custom of the great families to set up these coloured figures in their atria, and on particular festivals to carry them in procession through the streets of Rome, draped with actual robes such as were worn by the persons whom they represented. Pliny expresses his regret that in his time this custom had fallen into disuse, tending as it did to keep fresh and alive the personal memory of great men who had passed away from this life. When speaking of some early products of the plastic art, and particularly of the signa Tuscanica, or earthenware statues, Pliny says:—"It appears to me a singular fact that, though the origin of statues was of such great antiquity in Italy, the images of the gods, which were consecrated to them in their temples, should have been fashioned of wood or earthenware, until the conquest of Asia introduced luxury among us." He goes on to enumerate the principal works in bronze, and then says that portrait statues were long afterwards placed in the forum and in the atria of private houses; that clients thus did honour to their patrons, and that in former times the statues thus dedicated were dressed in togas. Such would be the figures alluded to by Lucian or Lexiphanes, when he says:—"If you cull the flower of all these various beauties, you will in your eloquence be like those makers of figures in wax and clay in the forum, coloured outside with minium and blue and inside only fragile clay."

French and English Gothic.

It is by visiting the churches of central and southern France that we shall be able to form a better estimate of the excellences of our own styles. We can draw a comparison, if such it may be called, which shall be to the advantage of both countries and the disparagement of neither. We shall see that English architects took a prominent position in the advancement of the art, and that instead of merely following in the steps of other nations, they outstripped them in some respects, and this at a very important period in the progress to perfection. It may be inferred that Romanesque elements would in most parts of France linger considerably beyond the introduction of Gothic. They did so through the whole of the thirteenth century. Even in Normandy the square abacus continued to prevail up to the very end of that century. Buildings coeval with our most finished Early English would, if we met with them in this country, be at once classed as Transitional, and referred to the end of the twelfth century.

Our antiquaries must sometimes find it difficult to reconcile the apparent discrepancies, in characteristics indicating date, which they meet with in French churches. On the other hand, the squareness of the general sections, and the monotony of the mouldings, while they betoken less advancement in the elegancies of the style, give an expression of severe dignity which cannot fail to produce its effect on the spectator. Perhaps in smaller churches the contrast is still more forcible than in cathedrals.

Eastern Domes.

It is remarkable that the dome was first employed in Persia and in India, as in Egypt, for tombs, thus offering a curious analogy with the sepulchral architecture of the Etruscans, Romans and early Christians, and suggesting the inference that its use for such purposes was traditional first amongst cognate races and afterwards throughout the old world. Domed tombs with circular, square or octagonal bases abound throughout the East wherever the Tartar or Mongolian races have penetrated. In northern India they are scattered over the face of the land in endless variety, forming the most picturesque and interesting objects in nearly every landscape. They may be traced in an unbroken series from the massive sepulchre of the earliest Mohammedan conquerors to the airy and graceful mausoleum of the Moguls, from the solemn ruins of Old Delhi to the noble tomb of Mahomet at Beejapore and the gay Taj Mahal at Agra.

Correspondence

Public Library Competition, Hove.

Sir,—I herewith enclose, for publication, copy letter received from the Town Clerk of Hove and the award of the assessor, and which I feel sure the competitors will regret as much as the committee. Such an award condemning the whole of the designs of eighty architects has never before been recorded, and I trust that the committee will take a charitable view of the circumstances which must have been the cause of such an award, and that they will not take it seriously.—Yours faithfully,

A Competitor.

(*Copy.*)

Public Library Competition.

Sir,—I am instructed to state for the information of the competitors, that Mr. John Belcher, 20 Hanover Square, W., president of the Royal Institute of British Architects, was appointed assessor in this competition, and has now made his report. I regret to say that, after a careful examination of the designs sent in, he states that the authors have all either not complied with the conditions, or the designs are otherwise defective, and that he is unable to make any award or advise the Council to accept any of them. I return your deposit of 1*l.* 1s.—I am, yours truly,

H. Endacott, Town Clerk.

Borough of Hove, Town Clerk's Office:
October 6, 1905.

GENERAL.

The King of Italy has offered a prize of 400*l.* in connection with the Milan Exhibition of 1906 for the best type of popular dwelling adapted to the climate of Northern Italy.

The Liverpool Academy recognised the services rendered to the cause of art in that city by the Lord Mayor by entertaining him at a banquet at the Adelphi Hotel on the 18th inst.

The Royal Society of British Artists held a meeting in Suffolk Street on Saturday, when the following painters were elected members:—Mr. Stephen Reid, Mr. Rowland Wheelwright, Mr. W. H. Milnes, Mr. J. Newman Holroyd, Mr. Douglas Fox-Pitt, Mr. A. H. Elphinstone, Mr. Herbert Drew and Mr. Brougier.

Mr. James Wilson, of the firm of J. & R. Wilson, builders, has been nominated as Lord Dean of Guild of Edinburgh.

The Hôtel Spitzer, in Paris, has been altered under the direction of M. Nénot, and is now the Turkish Embassy.

The Manchester Education Committee are to invite architects of the city to send in designs for the Secondary School for Girls near Whitworth Street.

Mr. William Glover, architect, who formerly practised in Newcastle-on-Tyne, has offered to give 500*l.* to the Corporation, the interest of which is to be devoted to the purchase of works of art by local artists.

The Candidates for membership of the Académie des Beaux-Arts in succession to the late M. Henner are MM. Besnard, Chartran, Raphaël Collin, Gabriel Ferrier, Léopold Flameng, Friant, Gervex, Harpignies, Lecomte du Nouy, Lhermitte, Albert Maignan, Renard, Tony Robert-Fleury, Toudouze and Wencker.

A Meeting of the Liverpool Architectural Society will be held on Monday next, when various members will express opinions about "The Garden City."

Menzel's *Ball-Supper,* which is one of his most successful paintings, will shortly be added to the National Gallery, Berlin. The price paid was 160,000 marks.

At Bradwell Church, Essex, some discoveries of church decoration in the fourteenth century have been made. On the splay of an Early Decorated window north of the chancel two paintings have been revealed, the one on the left being a female figure and the one on the right the figure of an angel holding a crucifix. On the lintel are two angels with faces turned towards the seated figure of our Lord, whose left hand is raised in blessing. In addition to the above, some fifteenth-century paintings, the drawing and colouring of which are of a more perfect character, have been found, comprising the figure of an angel with outstretched wings on the east wall of the chancel, and the face of an angel on the north wall of the nave.

Mr. T. R. Ferens has offered to contribute 1,000*l.* a year for five years to the Hull City Council, to be expended on the purchase of works of art, and expresses pleasure at seeing there is likely to be suitable provision made in the new City Hall buildings for an art gallery.

At a Meeting of the parishioners of Great Malvern on Monday night it was stated by Canon Pelly that the unique fifteenth-century glass in the priory church was being affected by fumes from the gas. It was resolved to instal the electric light, and a fund will be opened for this purpose.

Mr. W. Henry Goodyear delivered on Tuesday the first of three lectures before the Edinburgh Architectural Association on the subject of architectural refinements. The dates of the other two lectures are the 20th and the 24th inst. Through the courtesy of the directors of the Brooklyn Institute of Sciences and Arts, arrangements have been made for Mr. Goodyear to return to this country with the special object of delivering this course of lectures.

The Opening Meeting of the Auctioneers' Institute will be held on Friday, the 27th inst., at 5 Whitehall Court, when Mr. James Boyton will deliver an address.

The Viceregal Commission appointed to inquire into the work carried on by the Royal Hibernian Academy and the Metropolitan School of Art in Dublin commenced their sittings in the board-room of the Royal Dublin Society, Leinster House, last week. The Commission consists of Lord Windsor, the Earl of Westmeath, Mr. Justice Madden, Mr. Holmes and Mr. J. P. Boland, M.P., with Mr. H. J. Boland as secretary. The Commissioners are to report whether any, and if so what measures should be taken in order to enable these institutions to serve more effectively the purposes for which they are maintained. It was decided to conduct the inquiry in private.

A Return dealing with building by-laws in rural districts was recently issued. It shows that in 246 rural districts in England and Wales (out of a total of 668) there are no by-laws for the regulation of new buildings, and that throughout 169 districts and in parts of 114 there are by-laws based on the urban model. Further, that throughout 106 districts and in parts of thirty-two there are by-laws in force based on the rural model, and that in some districts the by-laws which are in force were mostly made before the first issue of the model in 1877. In certain instances series of diverse character are in force in different parts of the same district.

Mr. Walter Crane, in the course of a paper on house decoration read before the Northern Art Workers' Guild at Manchester, suggested that iron railings are generally painted too dark a colour, and this reminded him that the cylinders of gasworks, which are important in town scenery, would be far less trying objects if they were painted a discreet and retiring cool tint of green, and the light ironwork supporting the standards or columns were painted white. He did not think such a treatment ought to raise the price of gas, but it would certainly dispel the irresistible impression on the mind of the unprejudiced that these rotundas were really huge rounds of pressed beef waiting for some giant cormorant's luncheon.

The New Vestry Hall of St. Ann, Blackfriars, was opened on Monday. The architects were Messrs. Banister Fletcher & Sons.

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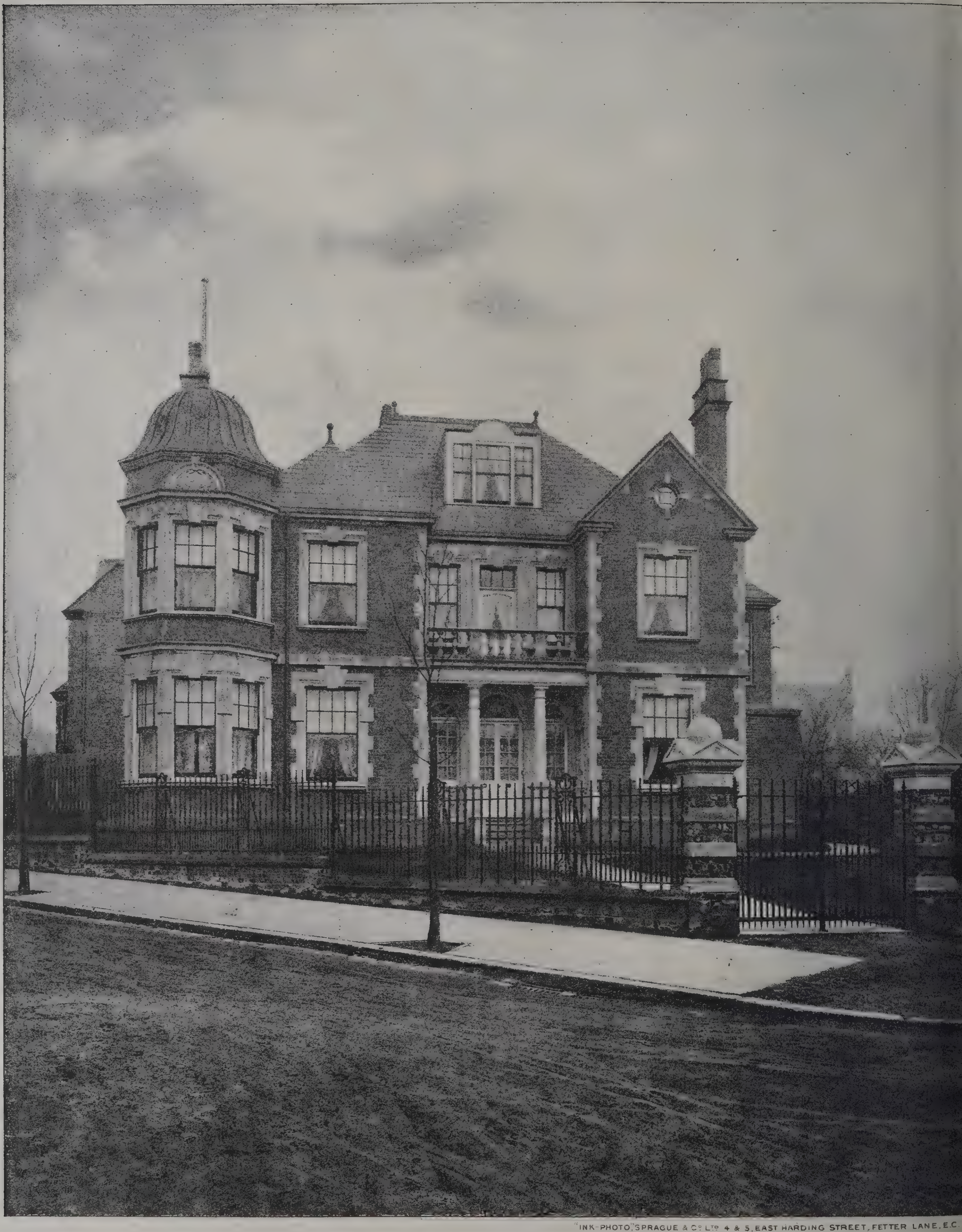
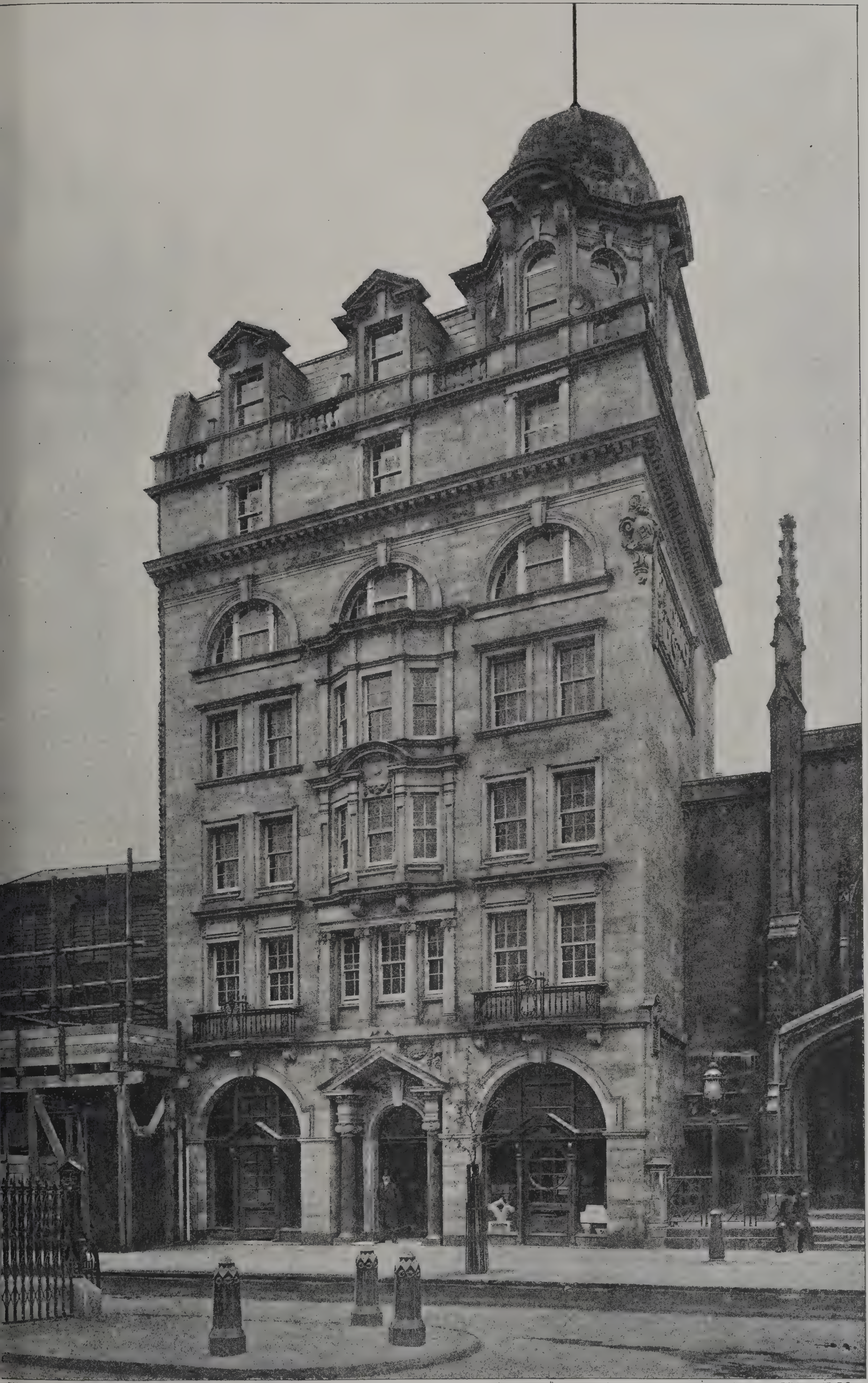


"INK-PHOTO," SPRAGUE & C^{o} L^{TD} 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

"ONAWAY," HALF-MOON LANE, NORTH DULWICH.

J. WILLIAM STEVENS, A.R.I.B.A., Architect.



PHOTOGRAPHED BY KENNETH KINNINMONT, 19 REGENT ST., S.W.

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CRAVEN HOUSE, KINGSWAY, W.C.

HENRY TANNER, Jun., A.R.I.B.A., Architect.

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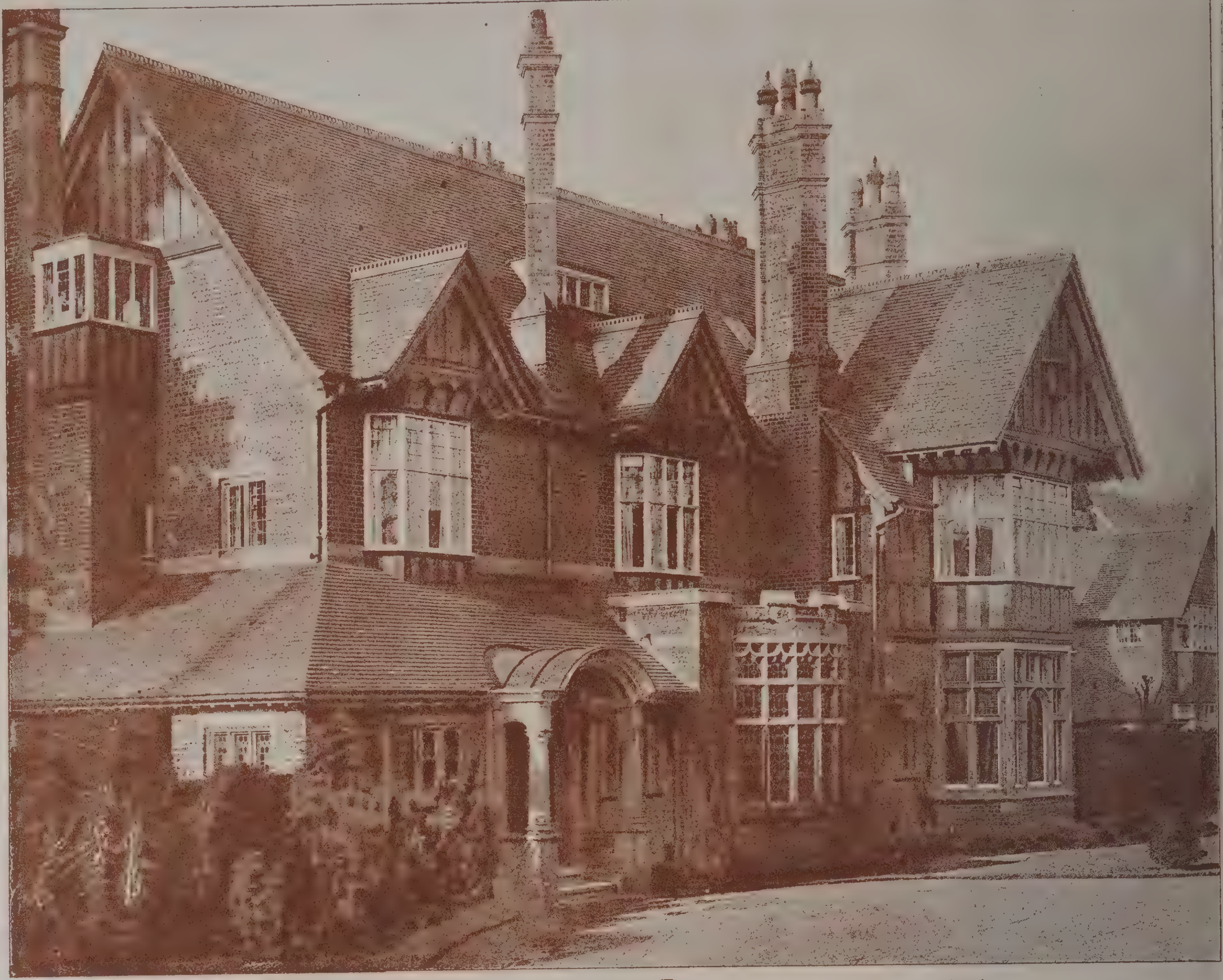
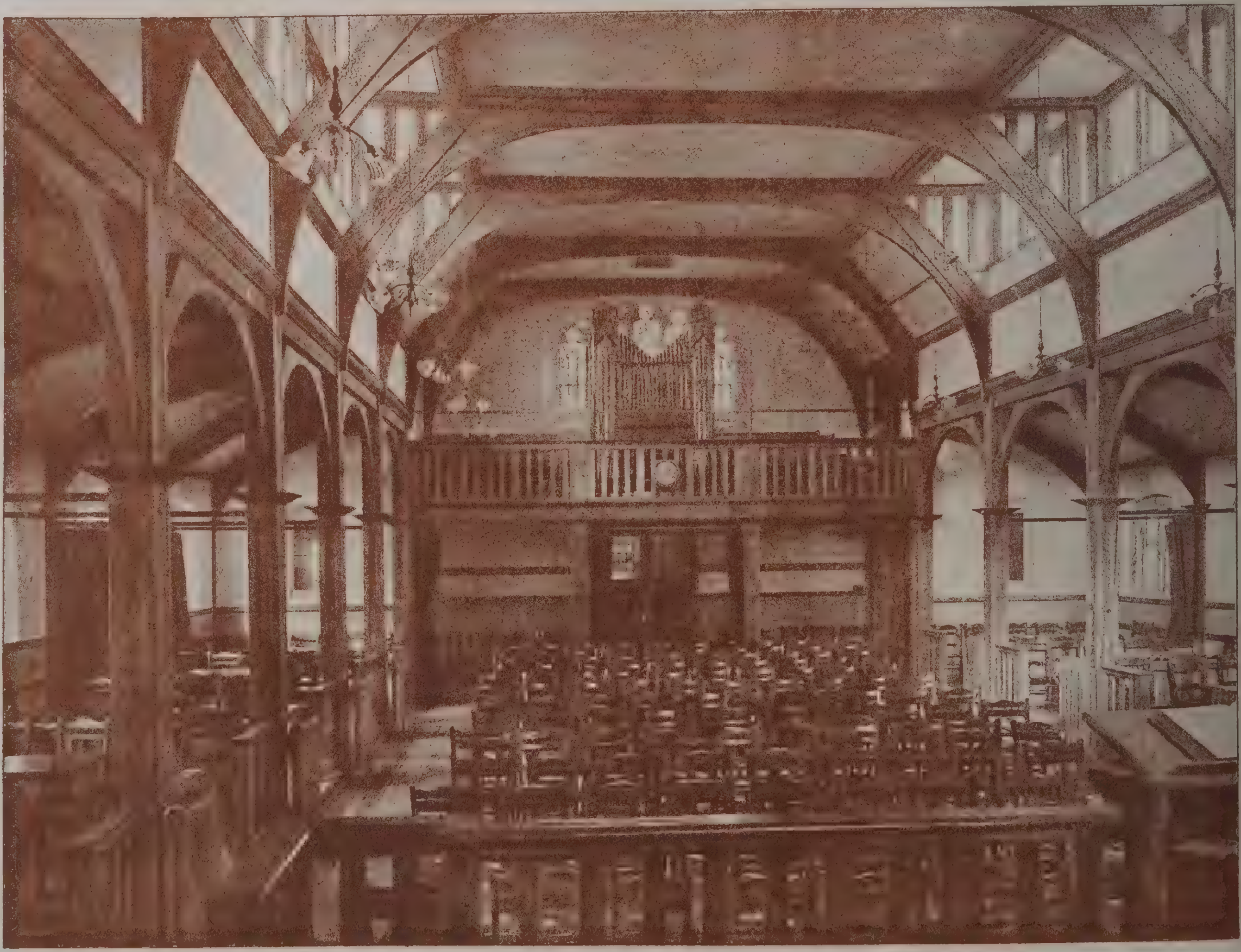
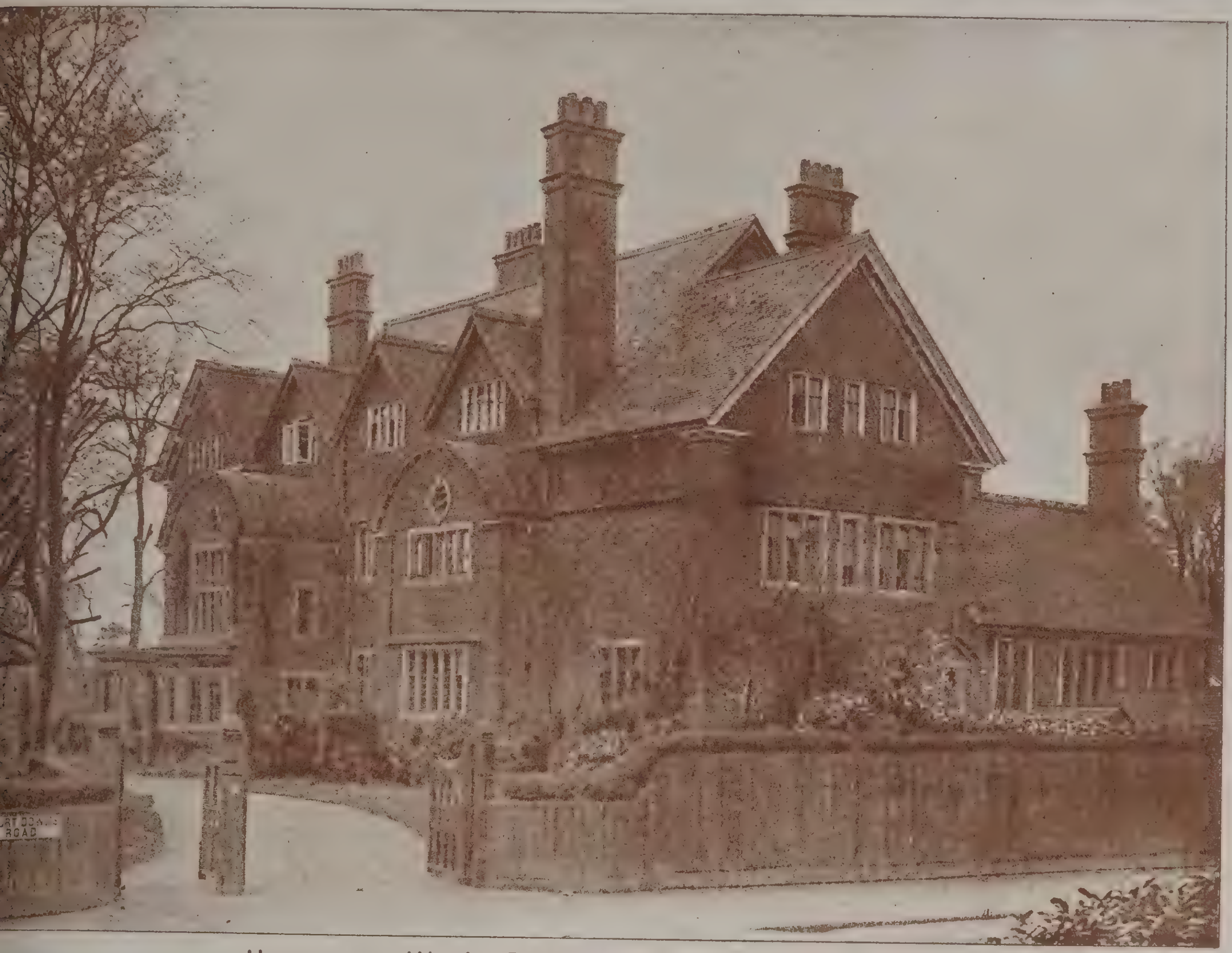


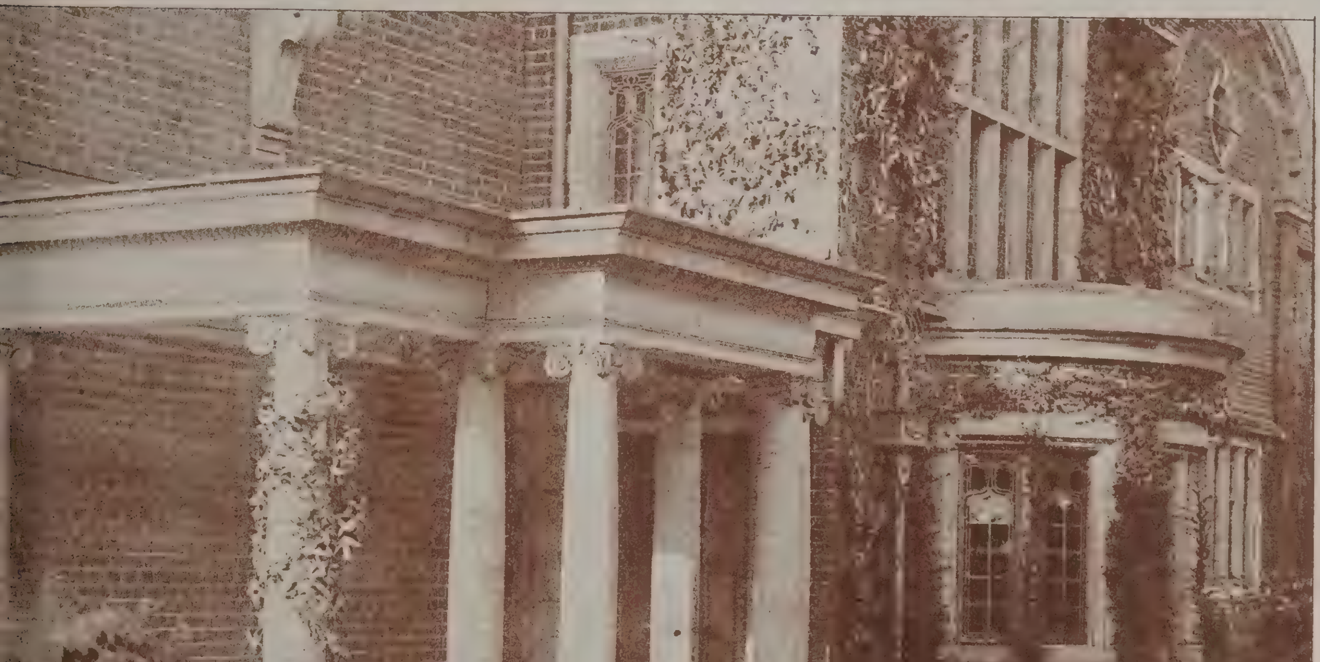
HOUSE FOR R. MURRAY HYSLOP, ESQ. FRANCIS HOOPER, Architect.



CHRIST CHURCH SCHOOL AND INSTITUTE, BECKENHAM: THE HALL. FRANCIS HOOPER, Architect.



HOUSE FOR W. A. BENEY, ESQ. FRANCIS HOOPER, Architect.



PORTICO OF ABOVE HOUSE. FRANCIS HOOPER, Architect.

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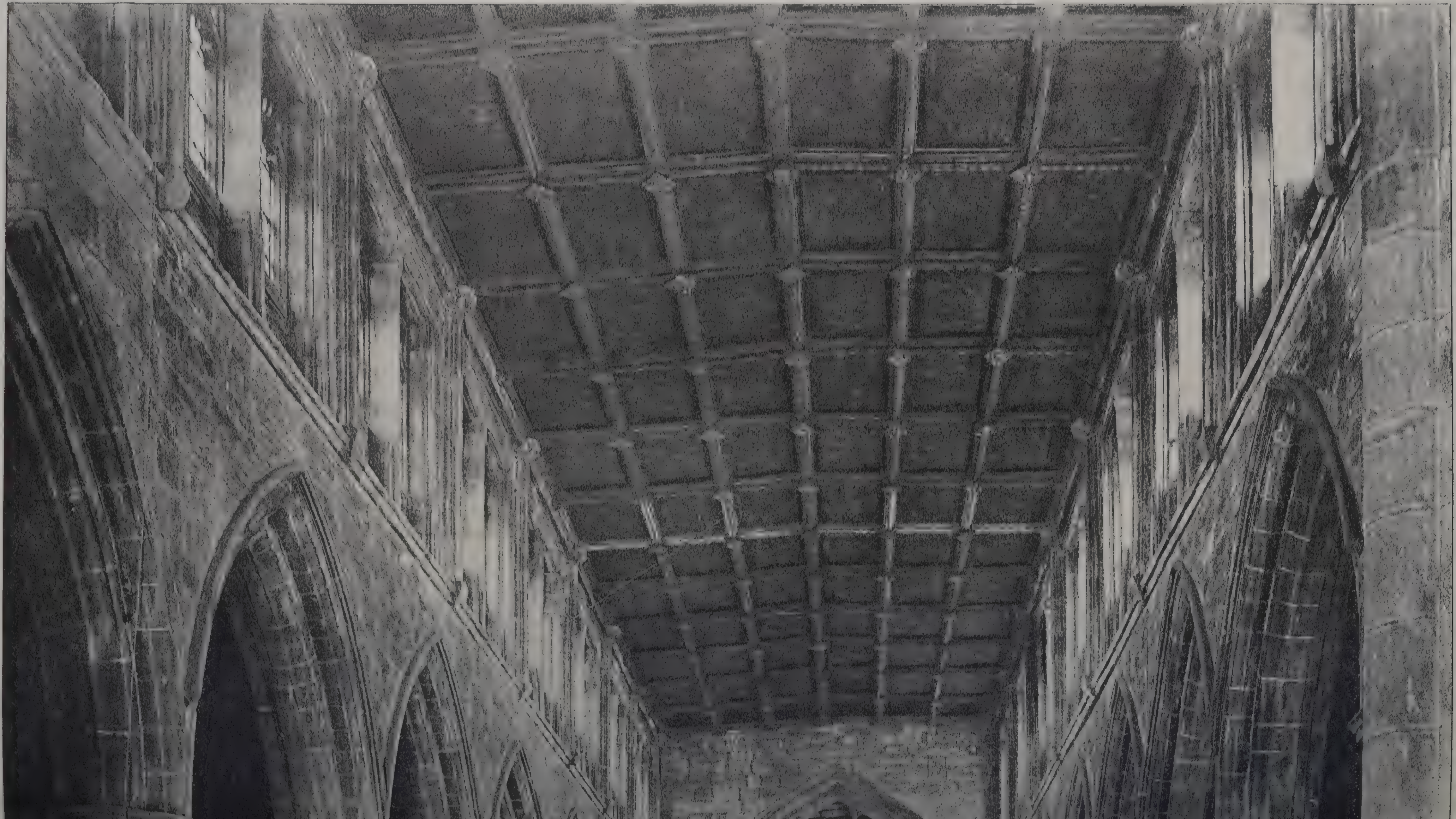

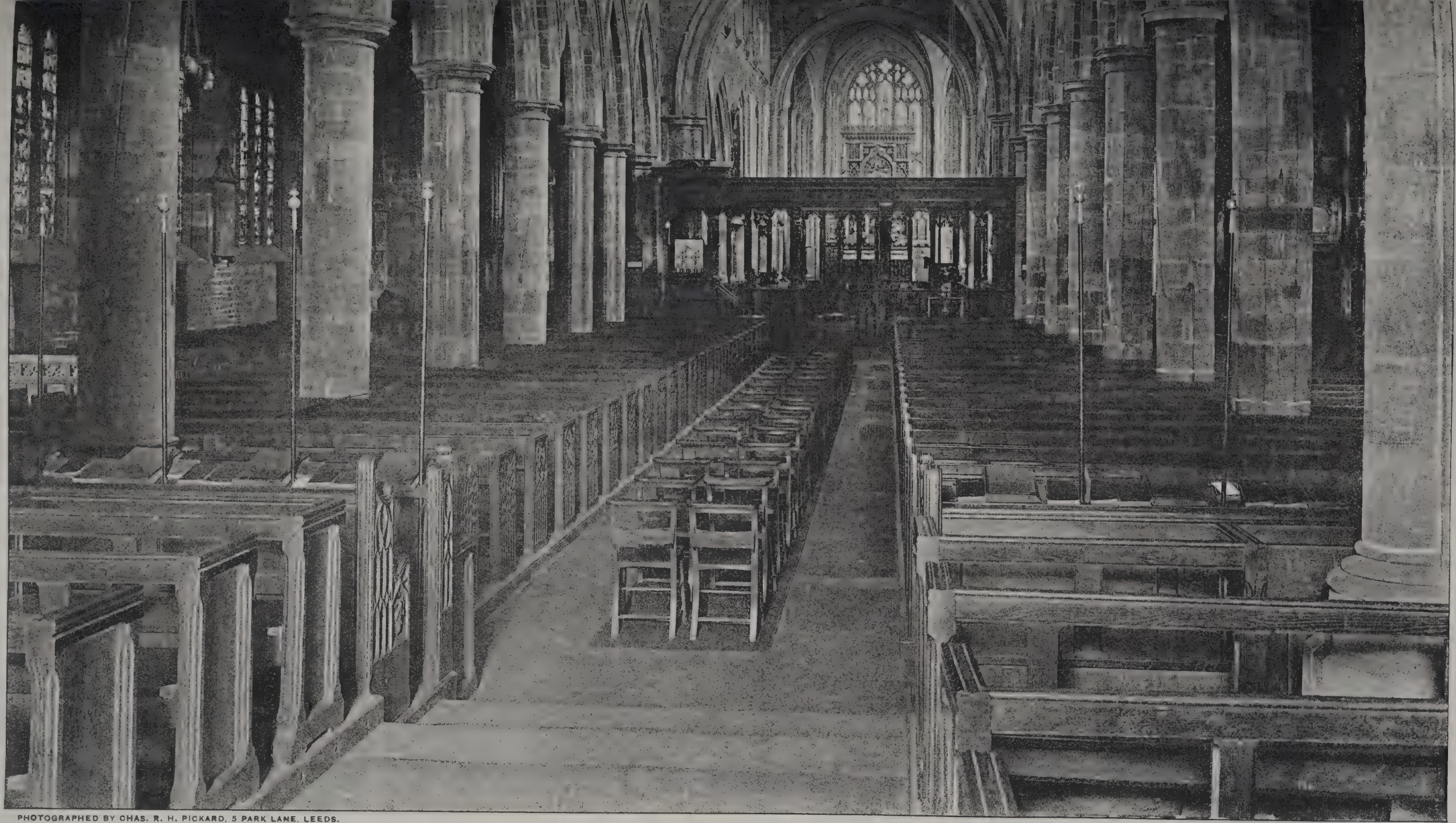

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Cathedral Series, No. 538.—Wakefield: Nave and Chancel from West End.

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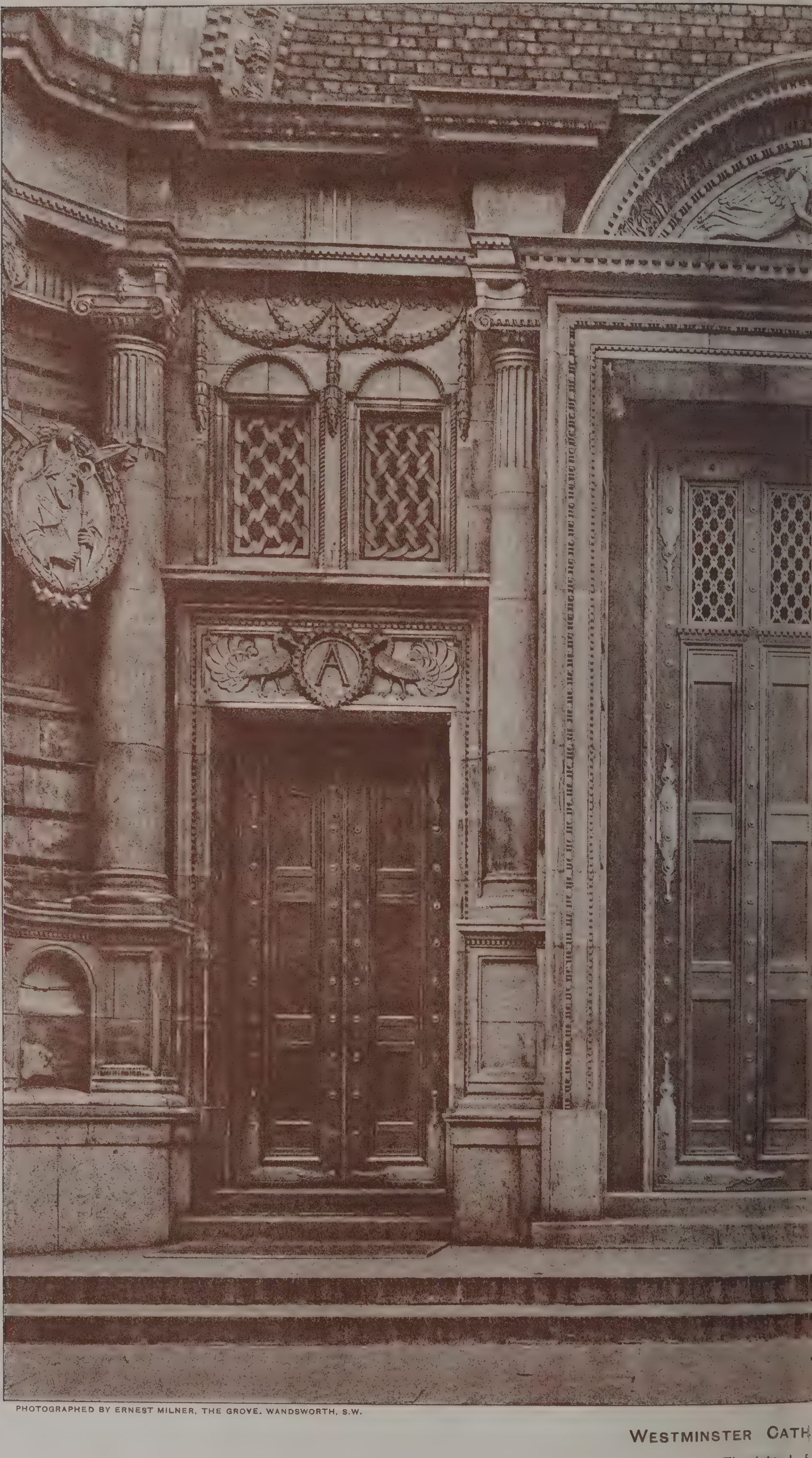
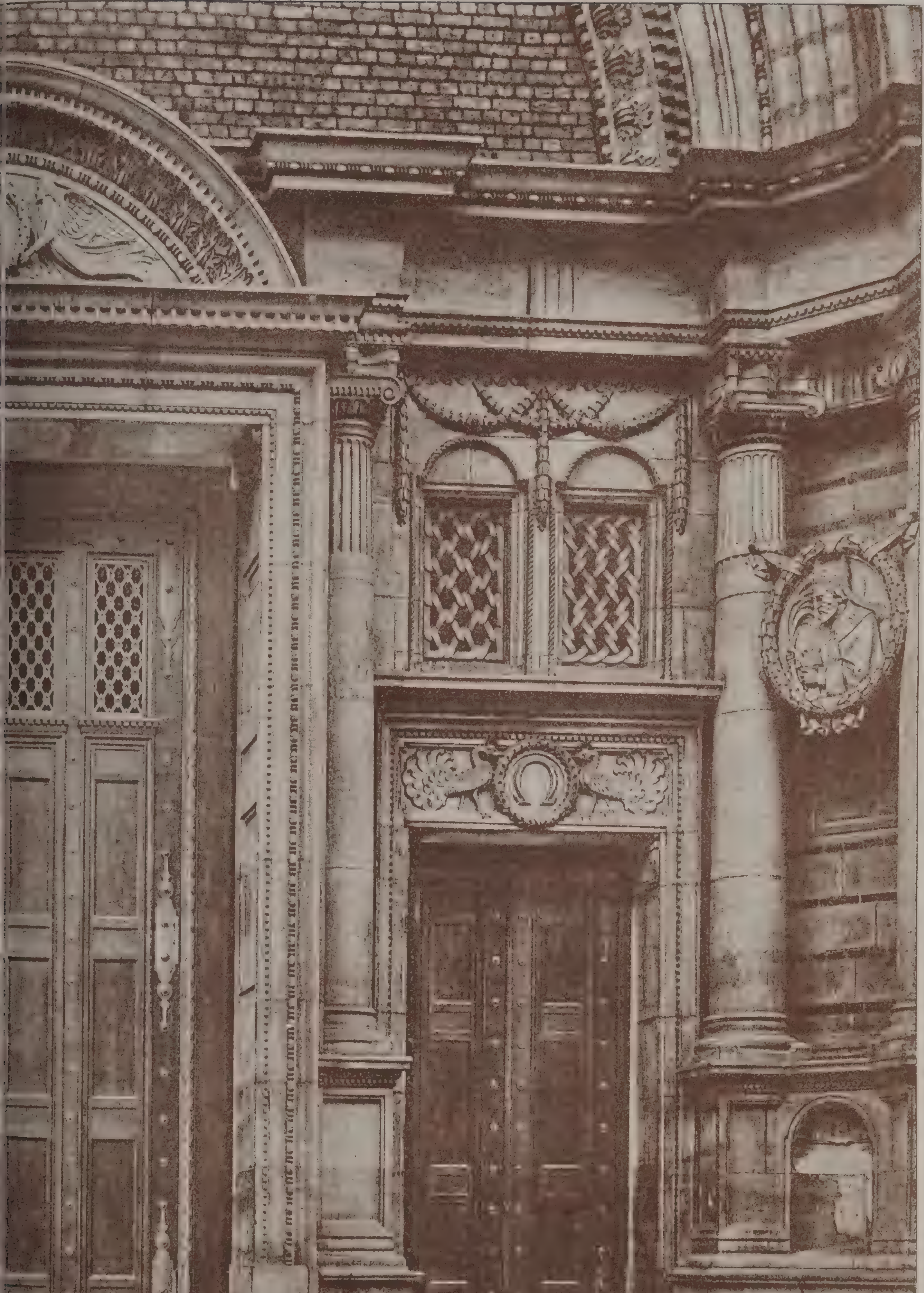


PHOTOGRAPHED BY ERNEST MILNER, THE GROVE, WANDSWORTH, S.W.

WESTMINSTER CATH

The late J. F



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ENTRANCE DOORS.

Y, Architect.

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The Architect.

THE WEEK.

The City Mill buildings, in Upper Thames Street, was some time ago cited as an example which proved the necessity of giving powers to the London County Council to secure the provision and maintenance of proper means of escape in case of fire. The London Building Acts (Amendment) has conferred these powers, but it does not come into operation until January 1, 1906. During the present year there were three fires in the building. One occurred on the 9th inst., and Dr. Waldo, the City coroner, held an inquiry into the cause on Tuesday last. It appears there are three occupants of the City Mill, but as they are merely tenants they are unable to execute the structural alterations which are required to afford means of escape to the employés. According to Mr. Power, the district surveyor, an iron staircase should be constructed outside the building, and the doors arranged to open on to it. The jury were unable to discover the cause of the last fire, but they expressed the opinion that the building was nothing more nor less than a death trap, and should be closed until proper provisions be made for the escape of people working on the premises in case of fire, and left it to the coroner to take such steps in the matter as he might think fit. With such a building it is not certain that the Act does not exempt it under the clause relating to the premises of public wharfingers. Any manufacturing process could not, however, be carried on if the structure is to be outside the provisions of the Act.

Although Rembrandt was born in Leyden in 1608, his name is intimately associated with Amsterdam. It is believed he came to that city in his twenty-second year. In 1639, when he had attained success, he purchased a house, No. 4 Jodenbreêd Straat, in the Jewish quarter. For it he paid 13,600 florins, which was a high price for so small a habitation. Rembrandt's financial affairs are incomprehensible. As a painter of portraits he was in request, and was no doubt liberally paid by his subjects. In 1656 he was unquestionably insolvent, and he had to sacrifice his house. The Municipal Council, it is reported, have just paid for it 45,000 florins (3,750*l.*), or 10,000 florins above its estimated value. It will be used as a Rembrandt museum. The house is not very far from the botanic and zoological gardens, and in Rembrandt's time the Jewish quarter must have been regarded as outside the city. The Rijks Museum, where Rembrandt may be said to reign, is at some distance from the house and in a new quarter.

The American Academy in Rome cannot be a failure if money is of avail. Although a year has not elapsed since the Incorporation Bill passed the Senate and House of Representatives, the project has advanced further than was expected. The following donors have each subscribed 100,000 dols.:—Mr. J. Pierpont Morgan, Mr. Henry Walters, Mr. William K. Vanderbilt, Mr. James Stillman and Mr. Henry C. Frick. Harvard University has subscribed 100,000 dols. through Mr. Henry L. Higginson; the University of Chicago 100,000 dols. through Mr. John D. Rockefeller. Mr. E. H. Blashfield, one of the artists who has been zealous in promoting the establishment of the Academy, maintains that it is indispensable if America is to have great artists. The art which is exemplified in Rome is not, he says, "the art of now or then, but of all time; it is that art in its essence which is the religion of the true artist. It is as old as the hills, older than some of the stars, for a new constellation has arisen in the heavens since the stones of the great Pyramid were laid. It reaches from the flint-scratched prehistoric stone to the etching plate of Whistler, from the canoe side of the aboriginal savage to the palette of Claude Monet, and it is potential to instruct from beginning to end. It is one magnificent heritage which we may not deny. Our local schools are as good as any in the world; in them a man may acquire a perfect technique. But a technique is only a box of tools, and unless the practitioner has personality at the bottom of his box and can use it like a new Pandora, he can say nothing to us worth hearing. He may have mastered the whole theory of music, but unless he have personality we will not listen to him. And the personality of the individual is a part of the personality of his race; the personality of the race in turn has been at once schoolmaster and pupil, the creator and the creation of his historical sequence, the legatee of the world. The man cannot shake himself free of his inheritance. Therefore he should study the best of it; go to the fountain-head and come downward with the stream."

Market Street, Manchester, is believed by most visitors to be the busiest in the city. During the day it is crowded. It has been calculated that in the course of twelve hours nearly 9,000 vehicles pass along it. For some years the City Council have been debating the best means of relieving the congestion which occurs several times every day. In July 1903 Mr. T. de Courcy Meade, the city surveyor, at the desire of a special committee, prepared a plan of a new street which would run parallel to Market Street from Victoria Street to Oldham Street, a length of 677 yards. The estimated cost was 1,300,000*l.*, but if allowance were made for the new sites created the net cost would be 250,000*l.* One interesting feature of the plan was that continuous footways would be provided on the level of the first floors of the buildings, with foot-bridges and stairways at intervals. There would, therefore, be a line of shops on the first floor as well as on the ground floor, recalling the "Rows" at Chester, but having more width. It is also proposed to have arcades from Market Street to Cannon Street. It will be necessary to obtain an Act to carry out the project. The properties which it will be necessary to acquire have at present a rateable value of 36,420*l.* But with a new street the value would be increased threefold. The Manchester Corporation have not been more successful in letting new building sites than the London County Council. It is therefore proposed to make arrangements with syndicates for the disposal of the land and the erection of buildings.

The late Watkiss Lloyd used to say he had discovered the meaning of Titian's painting, *Sacred and Profane Love.* He, however, declined to impart it to the public. His explanation would have merely added one more to a very large number. Almost everybody tries to solve the mystery. The old Italian title was *Love and Prudery*, but there is no knowing whether the painter ever called it by a definite title. The naming of a picture or a statue sometimes took place after the completion of the work, and was determined by the artist's friends. Two explanations which were given by German critics have recently received much attention. Professor Avenarius came to the conclusion that the partly nude figure was the goddess Venus, and that she was counselling the young woman near her on the subject of love. Professor Riese, of Frankfort, having been struck by the explanation, has endeavoured to verify it. The size adopted for the picture was an unusual one with Titian, and it evidently was intended to occupy a special place in some Venetian palace. There is, moreover, on the sarcophagus on which the two figures are seated a coat of arms which belonged to the family Aurelio. It is evident that the draped lady is a portrait, and we may assume of a member of that family. There are several love-poems which have for subject Venus advising a girl, and it may be concluded that Titian illustrated a similar subject, but with reference to the family of the noble who had given him the commission.

WESTMINSTER IMPROVEMENTS.

Although the offer of the Victoria Embankment Contract Syndicate, Ltd., to purchase surplus land from the County Council as sites for building was unknown to the public until Saturday, there was no doubt about its acceptance at the meeting on Tuesday. There has been, however, slight opposition, which has temporarily delayed the final arrangements. Never before in our recollection has so vast a scheme advanced at such an extraordinary rate through official ways. But the fate of the land at Aldwych was enough to give a lesson to the most lethargic public body. Sites which were created by an extraordinary expenditure have been lying desolate for years. When, therefore, an offer on what may be called a colossal scale was made for the surplus land at Westminster, it was assumed there could be no hesitation about an agreement. By most people land in that district would be generally considered as having a less commercial value than land lying between the Strand and Holborn. If the method of dealing with the property which was so unfortunate at Aldwych were again applied in Westminster, there is little doubt an indefinite time must elapse before the sites would be taken, and eventually we might expect to see an inexpensive class of buildings erected.

The syndicate have regarded the surplus land in a broad and almost generous way. Between 1900 and the present time the outlay on the improvement has been 730,000*l*. As yet the scheme is incomplete owing to the difficulty in obtaining some of the properties. It will be necessary, moreover, to acquire additional property, which is estimated to cost 550,000*l*. The syndicate have offered to take the whole of the surplus land on a lease for ninety-nine years, and in six years to pay rent which has been calculated at the rate of 4 per cent. per annum on the total cost of the improvement, including the money expended on the purchase of the property, in rehousing, paving and other works. There is no intention of subletting any part of the site or of the buildings to be erected thereon without the sanction of the Council. The buildings are to be of a fine architectural character, and, it is estimated, will cost 2,500,000*l*. The Council are to retain full control over the lines of frontage, the widths of new and widened streets, and over the architectural treatment of the buildings, for which plans will be submitted in the usual way. For two years only a peppercorn rent will be paid. In the third year the rent will be 25,000*l*., for the fourth 32,500*l*., in the fifth year 40,000*l*., and for the sixth and succeeding years the full rent of 52,760*l*. per annum. If capitalised at thirty years' purchase 52,760*l*. represents a sum of 1,582,800*l*. By that arrangement it is considered that the Westminster improvement would ultimately impose no charge on the ratepayers.

An undertaking on so large a scale is not often attempted in the Metropolis. It recalls, although with many differences, the creation of the Westminster estate in South Belgravia. It is likely to give a further impetus to building in London, which, in spite of what pessimists may think, is not as yet overbuilt. One contemplated improvement of the syndicate is the widening of Horseferry Road, in continuation of the widening which the Council have in hand. There will also be improvements in John Street and Marshall Street. Much insanitary property will be abolished through the operations. Something has been done in the district to render it less representative of the indifference of former generations to what is necessary. But there is still room for wider streets and better houses.

It can be claimed without exaggeration that Westminster has no parallel in any city of the world. The invention of railways may be said to have imparted a new character to it. Private Bills being a necessity, engineers, Parliamentary agents and solicitors who aided in their promotion sought offices which would be in the vicinity of the committee-rooms. Great George Street and Parliament Street were quickly seized on. Rooms in some of the minor streets were likewise converted into offices. The opening of Victoria Street enabled offices to be constructed of a kind which hitherto were unknown in London. After a time other causes intervened to strengthen the character which Westminster had acquired through Private Bills. During many years the plans for great foreign public works were prepared in its offices. Contractors found it to be for their interest to settle in Westminster, and a number of auxiliary callings were followed in the neighbourhood. In no other city of Europe or America are there similar conditions for arranging the preliminary stages of engineering works, and accordingly promoters and directors of companies, financial agents and others have discovered that it is advantageous for them to possess offices in Westminster. It is no doubt a vast change from the days when so many thieves found sanctuary in the Abbey that one of the passages was known as Thieving Lane, when the Bishop of LONDON had a prison for clergymen, and when, in fact, there were greater contrasts offered than anywhere within the City of London. In the thirteenth century JOHN MANSELL, a priest, invited the kings of England and Scotland, earls, barons and knights and some citizens to a banquet in his house in Tothill Street. So many came he was forced to set up tents and pavilions to provide for his guests. That old story might be said to illustrate the history of Westminster. It is always being enlarged, and yet it cannot accommodate those who desire to have a footing in it. Streets near the Abbey, which a few years ago were occupied by poor people, now contain offices and chambers for which high rents are paid.

It is therefore probable that the Victoria Embankment Contract Syndicate were well advised when they boldly undertook the expenditure of so large a sum of money in Westminster. The city is the centre of a world-wide business, but owing to its proximity to the Thames and the extended Embankment it has interests of another kind which residents can appreciate. The change which has occurred in the riverine part of Chelsea suggests what can be done with the more important sites near the Horseferry Road. It is guaranteed that the new buildings are to be of "fine architectural character," and we may therefore conclude that they will, at least, be equal to the best houses which are to be found in the west of London. Residences will no doubt occupy the main lines of frontage. But there will be room enough in other parts for shops which will be a necessity if the place becomes a residential quarter. If at least 2,500,000*l*. is to be expended on buildings, and with a rent of 52,760*l*. a year, it will be necessary, of course, to charge proportionate rents. But for the class of people who are likely to become tenants there are so many advantages. There need be no apprehension about the income which will be derivable from the property. All who admire enterprise must wish the fullest success to the syndicate, and hope that no perversity on the part of some members of the London County Council will cause any further delay in approving of the proposal. The principal objection which was raised on Tuesday was, in plain terms, that the decisive action of the syndicate would prevent some members of the Council from acting as if they were landed proprietors. They have posed in that way for some time, and the vacant lands testify to their manner of doing business. The chairman of the finance committee reminded the Council on Tuesday that although five millions of money had been expended on Kingsway, Aldwych and the Strand, recoupment was not coming in. To reject the proposal of the syndicate would be to impose another 175,000*l*. loss on account of the Westminster improvement. The frenzy to exercise power cannot surely cause the representatives of the Metropolis to continue indifferent to the burden which the inhabitants have to sustain.

HERALDRY IN IRELAND.

AMONG the puzzles of Irish archæology are some which are connected with heraldry. In a country which was divided into several kingdoms and principalities it is not difficult to suppose that various outward and visible signs of distinction which it is the herald's business to create would prevail. Accordingly the antiquarians of the old school believed that armorial bearings existed in Ireland at a time when they were unknown in most other countries. For instance, we are told the Ollamh Fodhla, who became monarch of Ireland more than 700 years before the Christian era, devised heraldry as a stroke of policy. According to Connellan:—"It was Ollamh Fodhla who originated the plan of distinguishing the different families of nobility and chief officers of State by armorial bearings, and established it in Ireland, though it was never generally adopted throughout Europe until the time of the Crusades, when it is erroneously supposed by modern historians the custom first commenced. It is said he received the idea from the device of the dead serpent and rod of Moses, which the standard of his own family bore from the period of their sojourn in Egypt, and which always stimulated their followers to deeds of heroism. He believed that an honourable spirit of emulation would be created by these badges of distinction, and such was naturally the result." That statement, which is more expressive of modern than of ancient belief, was probably derived from what was said by Keating, who recorded so many legends, in his "History of Ireland," about a law having been issued by that monarch by which all the nobles and great officers were to be distinguished from others of the same rank by means of coats of arms. But if we seek for visible evidence of the existence of heraldry in a remote age it is not forthcoming. Not until the time preceding the Norman invasion is there any statement which is worth accepting about the use of signs which could be considered as heraldic. King Cormac, who was a contemporary of Constantine the Great, had in his court an antiquary who, among other duties, was expected to supervise the genealogies of the nobility and captains, and to have their heroic deeds registered in the archives. But nothing is said about any care of the armorial insignias which such grandees would be entitled to use. Cormac was the king who was believed to have erected a banqueting-hall 250 feet by 80 feet by 50 feet, which a single lamp of peculiar construction was able to light, a feat to which electricity is not equal.

The subject is interesting, because heraldry is remotely connected with art. The animals introduced have, it is true, very little resemblance to reality, and we can understand the scorn of the heraldic painter when he saw living lions in the Tower and declared them inferior to those of his own invention. But conventional figures are better than none. Now it is remarkable that although we have some evidence of the officers who were considered indispensable in the houses of Irish princes there is no mention of artists, heraldic or otherwise. There was a demand for bards whose sober hours were devoted to the praise of their upholder and his family. The standard of composition was not likely to be very high, and so many people were willing to accept the duties of the office that at one time it was supposed the greater part of the population were of the bardic class.

The simplicity of Irish "heraldry" may be judged from the description of the banners which were used in the twelfth century, a few years before the arrival of Strongbow. According to a poet's description, one king's banner was of "variegated satin on warlike poles;" another tribe bore a yellow lion on green satin; a third was of streaked satin blue and white. There were also banners of yellow and red, black and red, yellow and white. But the only figure was the yellow lion. In another old manuscript there is mention of a lion and bloody eagle on a standard. We read of an Irish sword entwined with a serpent. The most elaborate was described as a fair satin sheet, "bearing a fruit-bearing oak defended by a chieftain, besides a blue anchor and a golden cable." In a battle, and they were numerous in Ireland, it was an advantage for the different parties to keep together, and for that purpose banners served like the colours of modern regiments. But there is no evidence to show that those ensigns were regulated by laws or customs; and if the opportunity offered of finding a man or men who could cut out cloth figures, embroider or paint, several tokens were likely to appear on the same flag, like the oak champion, anchor and cable. The indifference to heraldic symbols is suggested by an incident in the life of Felim O'Connor, who was king of Connaught in the time of Henry III. He was granted certain lands from the English monarch on payment of rent. The seal which he used on legal documents was long afterwards presented to Charles I. Now a prince in that position might be expected to have a seal with armorial bearings upon it if they were adopted in Ireland. But, according to Petrie, it was very similar to those of the Norman and Anglo-Norman seals of the same age, and it can scarcely admit of a doubt that its type was derived from that source. In other words, kings and chiefs were glad to employ a seal bearing a figure of a mounted warrior, hundreds of which in the thirteenth century were probably turned out by engravers in London for the use of such exalted beings. There is, or used to be, in the abbey of Roscommon, a tomb of the same king of Connaught, who, we may say, was the last who held that dignity. From the treatment it resembled English works of the same kind. The king was shown reclining, a dog at his feet and a sceptre in his right hand. On the lower part of the monument, where coats-of-arms are usually found, there are instead representations of soldiers in coats of armour, *i.e.* leather closely stuck with nails. In fact, there is nothing to suggest the personality of the deceased except the sceptre. On an old seal belonging to the O'Briens, a winged griffin was represented; but it is believed to be a fourteenth-century production, and may also have been a representation of an English symbol. The only ancient heraldic sign employed by an Irish chief appears to be the red hand, which was supposed to have originally belonged to the Magennis family, but was afterwards appropriated by the O'Neills of Ulster.

We have been led to make these remarks by an interesting paper in the *Journal of the Royal Society of Antiquaries of Ireland* on "The Arms of Ireland and Celtic Tribal Heraldry," by the Rev. Canon Ffrench. He treats the subject very fairly. He believes the various tribes and kingdoms were distinguished by tribal banners and colours. He is, however, compelled to acknowledge that "when we seek for any coat-of-arms for the whole land, or any crest that might be considered the badge of the whole kingdom, we are at once face to face with a difficulty; a badge or crest such as the eagle of the Romans, the white horse of the Saxons, the raven of the Danes, the lion of the Normans, we cannot find." It is not difficult to explain why there should be a scarcity of badges or symbols. The people were divided into tribes and sub-tribes, the names of the members of the latter corresponding with that of the principal tribe. The names, it is claimed, were not derived from places which they inhabited, but from the name of some real or fictitious ancestor. After a time the division continued to a surprising extent, and new names were adopted. These subdivisions were often at war with each other and with those who still retained the original family designation. The confusion which would be caused if a similar badge were adopted by allies and enemies in a battle can be imagined.

Spenser, the poet, who was an Irish official in the time of Elizabeth, recorded that distinguished English families had adopted Irish surnames. According to him, the MacMahons were the representatives of the

Norman Fitzurses, and De Veres of Oxford became MacSwynes. That statement has been doubted. But it suggests that in Spenser's time the altering of names continued. A century afterwards an Anglo-Irishman complained of English families allowing their names to be metamorphosed into Irish appellations. He points out that the Berminghams, who were once important, became MacYoris, Fitz-Simmons, MacRuddery, Wesley, MacFalrene, &c.

On the other hand, many Irishmen adopted English surnames. In the reign of Edward IV. an Act was passed ordering that every Irishmen dwelling in the counties of Dublin, Meath, Louth and Kildare should assume an English surname. The names were to be either those of towns, "or colour, as white, blacke, browne; or arte or science, as smith or carpenter; or office, as cooke, butler; and that he and his issue shall use this name under payne of forfeyting of his goods yearely till the premises be done, to be levied two times by the yeare to the king's warres, according to the discretion of the lieutenant of the king or his deputy." With family names in such a topsy-turvy condition heraldry would only make confusion more confounded. John O'Donovan should have remembered this when, like Old Mortality, he was living in churchyards seeking to discover Irish inscriptions or armorial bearings. He failed to discover one belonging to a Milesian Irish family older than the reign of Queen Elizabeth.

It might at least be supposed that there would be no difficulty presented about the arms of Ireland as a country. But the uncertainty remains. A very long period has elapsed since Ireland could be considered as having unity. There were, at least, four provinces, and one of their most virtuous kings took territory from each of them in order to afford a province for the maintenance of the chief monarch. As part of that new creation was the present county of Meath, it is sometimes described as having the dignity of a kingdom. Hence it was concluded that the arms of Meath, viz. a king enthroned in majesty with a lily in his hand on a field "saturn," should be considered as the arms of Ireland. In the reign of Edward IV. the arms of Ireland were declared to be three crowns, but they now serve for Munster alone, and their signification appears to be unknown. Under Henry VIII. the harp was adopted, and at present it is heraldically described as: az. a harp or, stringed argent, that is to say, a golden harp with silver strings on a blue ground. Why the harp was introduced by King Henry cannot be discovered.

It will be observed that the ground of this shield is blue. Orange and blue, which is adopted by one section of Irishmen, comes therefore nearer to the colours of the arms than any colours on a green ground. "The wearin' of the green" is, however, supposed to express the purest Irish sentiment, although there is no visible reason why Ireland should be specially considered as the Green Isle. Green is, no doubt, the field of the shield of the province of Leinster. But the blue of Munster or the black and gold of Connaught must be accepted as having equal claim to be regarded as the colour for the national shield. Sir Bernard Burke, who was Ulster King of Arms, said:—"It is very difficult to ascertain whether Ireland had any national colour before the advent of the English. I have failed in tracing any such, and I am inclined to think there was not a recognised national standard. . . . Certain it is that from the date of the advent of the Strongbowians, the field of the national arms, and consequently the national colour, has been blue." The differences of opinion on the subject are remarkable, but they correspond with much else in Ireland. The history of the island is suggested by the absence of any colour or banner of which the whole of the country, or rather the chiefs, could agree to approve. In this case, as in many others, heraldry becomes a revelation, and deserves to be always considered as a necessary adjunct to history.

THE DUBLIN INQUIRY.

THE committee on some of the art institutions of Dublin, who commenced their sittings, under Lord Windsor as chairman, at Leinster House, Dublin, on the 10th inst., are not, as described by some of the press, a Viceregal Commission, but a Parliamentary Commission nominated by the Treasury. It was conceded by the Government in the Commons in May last, on the motion of Mr. Mooney, M.P. for South Dublin, a Nationalist member, but supported in this case by all Irish members and representative Scotchmen also. It is a Commission on the precedent of that granted to Scotland in 1903, and is but a complement to that inquiry in defining the proper relation of Incorporated Royal Academies to the State as educational institutions for the public at large.

The meetings in Dublin were not open to the public or to any witnesses other than the one immediately under examination, but it is understood in Dublin that the Blue-book, which will be issued at the opening of Parliament, will be of more than usual interest in art circles owing to the freshness of view brought to this inquiry by Lord Windsor as chairman, Mr. Justice Madden, Lord Westmeath, Mr. J. P. Boland, M.P., and Mr. Geo. Holmes, C.B. The originality and vigour of mind of diverse witnesses caused surprise. The definite and practical ideas of Sir James Guthrie, P.R.S.A., were manifested as noteworthy by the long examination that independent witness underwent. Sir Thomas Drew, P.R.H.A., will be probably found to have contributed some new and decided conclusions as to art in Ireland and its neglect by the State; and the evidence of Mr. James Brenan, R.H.A., an observer of great experience, and now relieved from reticence by his retirement from departmental employment, is expected to be shrewd and instructive. What the views of Mr. George Moore, novelist, and Mr. Yeats, Irish poet, volunteer witnesses, may be on Irish art it is hard to anticipate, except that they may add an element of humour infrequent in Parliamentary Blue-books. It is understood, however, that the outcome of this committee will be found to be unanimously sympathetic and helpful to the Royal Hibernian Academy, and will not seek to excuse the State neglect of modern and contemporary art in Ireland in the past forty years. The claims formulated by Sir Thomas Drew on behalf of the Hibernian Academy are for a very modest betterment by way of financial grant, with a site and moderate building scheme of galleries in the neighbourhood of the National Gallery, the abandonment of James Johnston's worn-out old building in the vicinity of Lower Abbey Street, now but a by-way of northern Dublin, and isolated from the southern population of some 250,000 inhabitants, among whom those interested in art are found. Mr. W. P. Boland, of H.M. Board of Works, is secretary to the Commission.

CANALETTO'S VIEWS OF VENICE.—XIV.

FROM the number of waterways it was impossible to lay out the streets of Venice in a manner which would correspond with that displayed in inland cities. In reality Venice was not one island but a series of them, and in each the buildings were too close. Occasionally, however, open spaces of rather limited area were secured, the most famous being the Piazza San Marco. Canaletto represented some of them, for although foreign visitors identified Venice with the Grand Canal, he, like other natives, believed fine buildings were found in each campo. The position of the Campo San Polo is behind the Palace Bernardo, and the Rio San Polo runs near it. In Canaletto's time it presented a variety of mansions, for in Venice there was no building regulation to make uniformity a necessity. The church of St. Polo was of early date,

The Place of St Paul in Venice.

A new Collection of Celebrated Prospects in VENICE
consisting chiefly of such Views and Edifices as are not situated on the Bank of the Canals.

but was altered from time to time. The open spaces had one advantage, as in them acrobats and actors were able to give those entertainments which all Italians admire.

WINCHESTER CATHEDRAL.

THE shoring of Winchester Cathedral is still in progress. Three additional raking shores are about to be erected at the eastern end, as it has been found necessary to extend the support in that direction. The principal subsidence and defects exist in the three bays of De Lucy's work (c. 1200), forming the south-east corner of the presbytery, extending from the later work of the south chancel aisle to the lady chapel and including Bishop Langton's chapel. The further excavations that have been made reveal here a very serious dislocation of the wall and foundations. The footings of the buttresses are separated from those of the walls and the buttresses themselves are practically hanging to instead of supporting the wall. The groining of the three bays adjacent to the defective wall is found to be seriously distorted, the line of ribs in some instances assuming a convex instead of a concave curve, and the ashlaring of the vaulting has lost all true bond. A further investigation has resulted in the discovery of a fracture in the core and foundations of the wall on the north side, in the corresponding bay to that of the most defective one on the south side; and it is feared that similar faults, although perhaps in a somewhat lesser degree, exist here. The levels that have been taken indicate in a length of about 70 feet a subsidence, at the extreme end, of about 20 inches, and a vertical plumbing of the south wall shows that, in a height of about 40 feet, there is an inclination some 20 inches from the vertical.

At a meeting of the Greater Chapter, presided over by the Bishop of Winchester, the report of Mr. Jackson, R.A., was read. To-morrow there will be a meeting of influential laymen to consider the subject.

COWLEY AND IVER.

COWLEY and Iver, two picturesque villages little known by the rambler, were visited by members of the Upper Norwood Athenæum on Saturday, September 30, under the guidance of Mr. Theophilus Pitt, F.C.S. On arrival at Cowley Station, a short walk was taken to Cowley Church, prettily situated among orchards and fields. The church was carefully examined, many points of interest were raised by the visitors, and the question of the burial of Barton Booth was left for a future consultation of the registers, which Mr. Goodchild kindly undertook. The tomb of the Rev. John Lightfoot and the place where Dr. Dodd is said to be buried were noted, and the interesting architectural features of the church were examined. From Cowley the walk was taken to Iver through pleasant places having the characteristic features of old-time Middlesex. The Grand Junction Canal was crossed at the point where the river Colne passes under it on its progress to the Thames, then onward by Huntsmoor Park to the little brook at the foot of the ascent to Iver, beside which stands the old-time house now occupied by Mr. Bodley, the distinguished architect. The church of Iver was found to be of great interest, its beautiful Norman arches in the nave, with remains of an earlier arch in the wall, the font, the portion of the ancient west doorway with Perpendicular mouldings of great beauty, all these and many other objects of interest claimed the attention of the party. On the floor of the nave is a slab covering the remains of an interesting personage, as shown by the inscription on a brass plate :—

> Pray for the soule of Raufe
> Awbrey, late cheyffe clerke
> of the Keychn tht, prnce
> Arthure on whose soule ihu
> have mercy.

The church is in a good state of preservation; all the old features have been retained; the steps to the rood-loft; a stone coffin at present outside might with advantage be brought within the church, and the churchyard is beautifully kept. Tea was taken at the only old inn remaining, the Swan, its neighbour, the Bull, having been rebuilt within recent years. At the meeting which followed, Mr. Frank E. Spiers in the chair, Mr. Pitt read the following paper:—

Cowley.

The village of Cowley, in Middlesex, cannot be said to possess any object of interest, for its church is the greater part of a mile away. Surrounded by farms and orchards, its priest originally serving its scattered population, the village as we know it arose in comparatively modern times to meet the convenience of its inhabitants, and in response to the desire to fulfil the gregarious instincts of man. So that the village is to the man in the lane the next step on his way to the town.

St. Lawrence, Cowley.

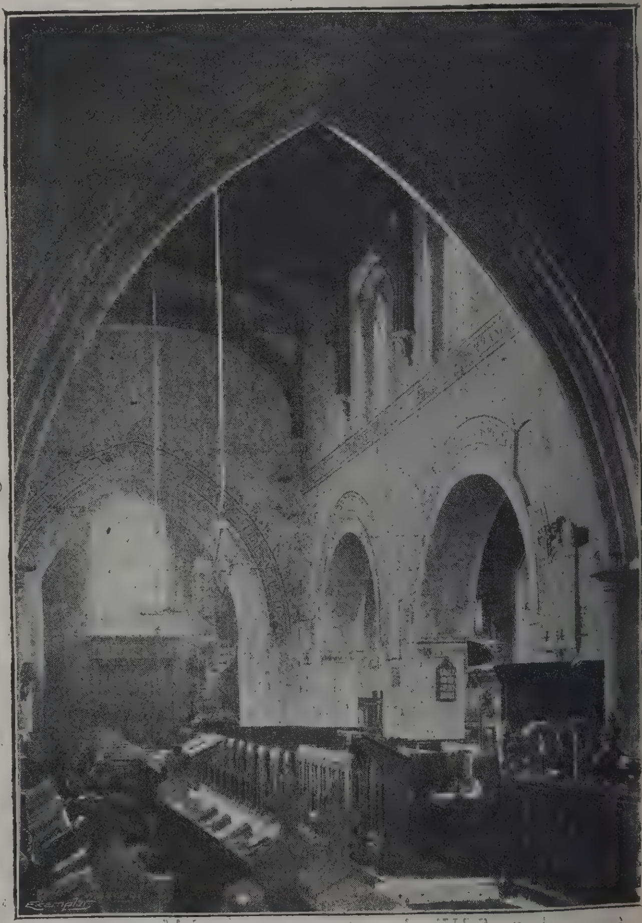
The ubiquitous Colne and a rivulet called the Blackwater, or Cowley Brook, which runs from Hillingdon and enters the river Colne, water the country and diversify the landscape. The name of the place is somewhat obscure; in the book that is entitled "Liber Judiciarius vel Censualis Angliæ"—the judicial book or book of the survey of England—it appears as Cove lei. Lysons adopts the idea that it is the Anglo-Saxon Co'l leag, the cold meadow Thorne is contented with the more evident rendering of Cow and lea, the Cow's meadow; like many another place-name, we must leave it as uncertain. The manor formerly belonged to Westminster Abbey, under whom it was held in the thirteenth and fourteenth centuries by Herbert Pecche and his descendants by the rent of 30s. per annum. A part of the parish is called Cowley Peachey to this day. The church is dedicated in honour of St. Lawrence, the chief Deacon in the diocese of Rome, who was martyred in the persecution of Valerian, A.D. 258. He was put to the torture for refusing to give up the church property and broiled to death on an iron frame like a gridiron, hence he is represented with a gridiron in ecclesiastical art. His martyrdom appears to have created a profound impression on the Church, and dedications of churches in his honour are to be found in all parts of Christendom. He is remembered in our calendar on August 10.

St. Peter's, Iver.

The church is very small, and consists of Norman nave, parts of which are probably Saxon, an Early English chancel, with a modern vestry. There is no chancel arch, the high pitched roof is covered with red tiles, the diminutive tower and spire are of the eighteenth century, built in 1780. Describing this church in 1853, the now rare "Church Walks in Middlesex," which marks the rise of the modern interest in our ecclesiology, says that the interior was "in a grievous state from pues and galleries; even the chancel had a gallery entered through a window by steps from the outside, and at the west end of the nave was a double gallery occupying from the ground to the ceiling. The pues were of all sizes, shapes and colours. The chancel has an eastern triplet, the lancets of equal height, that in the centre being the widest, the internal splays modernised.

St. Peter's, Iver—East End.

A high king-post roof, circ. 1500, remains. Four bench ends with poppyheads, probably belonging to the chancel walls, were worked up among the pues. The pulpit was placed on the north side of the chancel and opposite the priest's door. The nave retains two Romanesque windows on the north side; in the cill of one of them is a minute



St. Peter's, Iver—West End.

cavity which appears to be used for a font. On the south side is an excellent Decorated window of two lights, trefoiled ogee, in the lead a quatrefoiled circle with split cusps; over the west gable of the nave is a little wooden belfry containing one bell." In the chancel was a small brass of Walter Pope, yeoman, who died in 1502, and his wife. In the churchyard, in a nameless grave, in an angle formed by the western tower, lies the unhappy Dr. Dodd, executed for forgery, June 27, 1777.

The Survey of Church Livings in Middlesex at the time of the Commonwealth gives under Cowley:—"Item, we present that there is one parsonage house and twenty acres of glebe land, which, with great and small tithes, if duly paid, we conceive to be worth about three score and ten pounds per annum, and that Mistress Francklyn, having the right of patronage, conferred the same upon Mr. William Beare, the present preaching minister, who has all the aforesaid, and profits for his salary."

Among the worthies associated with Cowley were Barton Booth, the celebrated tragedian. He resided at Cowley Grove, in Hillingdon parish, which was also afterwards the residence for many years of John Rich, "patentee" of Covent Garden theatre. Rich died there at the age of seventy, having been manager of the theatre without a partner for forty years. He is buried in Hillingdon Church, where there is a monument to his memory. The house belonged to a Mrs. Evans in 1809, and is now the home of General Van Corlandt. Barton Booth was buried at Cowley in 1733, as was also his second wife in 1773. As Hester Santelow she was a favourite actress and dancer, and she it was who erected the medallion to Barton Booth in Westminster Abbey. The monument is in Poets' Corner. He was a favourite pupil of the famous Dr. Busby, and was led to the stage through his success in acting in one of Terence's plays as a schoolboy. He created the part of Cato in Addison's play.

The Rev. John Lightfoot, author of "Flora Scotica," who died in 1788, is buried in the churchyard of Cowley St. Lawrence. He was an accomplished botanist and naturalist, one of the founders of the Linnæan Society, and was "Lecturer" of Uxbridge parish church.

Iver.

The approach to the village of Iver from Cowley is marked by the picturesque bridge over the Colne, near which is a handsome house of red brick, probably built in the eighteenth century. From the bridge the village is reached by a sharp ascent, and here, unlike Cowley, the church and the village are not separated. The Domesday Survey, in recording the possibilities of Iver, calls it Evreham, and affirms that it answered for seventeen hides, that there is land to thirty ploughs, that from four fisheries 1,500 eels were obtainable, and fish for Fridays for the use of the bailiff of the village. Pigs and grapes were plentiful; there was pannage for 800 hogs, and two arpents of vineyard. The manor was held by Robert de Oilgi, or Olgi. The village had both a market and a fair; both have long since been discontinued. It had two hostelries of ancient standing, the Bull in brick, gabled, with a good group of chimney-shafts, and the Swan, a half-timbered house. The Swan alone remains intact.

Stone Coffin, Iver.

The church, dedicated in honour of St. Peter, is mainly built of flint, and though it may, like Cowley St. Lawrence, contain some portion of Saxon work, yet for the greater part the external appearance is that of a Perpendicular building. It consists of nave, a long chancel, aisles, and a large and lofty square embattled tower at the west end, containing six bells. The arches of the north arcade are Norman, those on the south side Perpendicular. There was a gallery on the south side of the church. The east window is a fine Decorated specimen of five lights. On the south side of the chancel are sediliæ and a piscina, and at the east ends of the aisles there are also piscinæ. The Norman font is a square bowl of Sussex marble, supported on a thick pedestal enclosed within four thin octagonal shafts.

The monuments are not of engrossing interest. The oldest is a brass on a large slab in the chancel in memory of Richard Blount, died 1508, and his wife Elizabeth. It bears the figure of a knight in plain armour, with sword, dagger and spurs; the wife is represented in a rich embroidered robe and girdle, with pointed head-dress and lappets, and the three sons and three daughters are also engraved. There are also two or three inscribed brasses without figures in the church. In the chancel is a monument to Lady Mary Salter, d. 1631, having her recumbent effigy with a boy on either side, between Corinthian columns which support a tall canopy; below are kneeling figures of Dame Salter with two daughters behind her and an infant lying with its head upon a skull; opposite are two kneeling male figures. There are other monuments to Salters and Bowyers. There is a tablet in the north aisle to a learned bricklayer, "Venturus Mandey, d. 1701, of St. Giles in the Fields, many years 'Bricklayer to the Hon. Soc. of Lincoln's Inn.' He was studious in mathematics, and wrote and published three books for the public good: one entitled 'Mellificium Mensuracionis, or the Marrow of Measuring;' another of 'Mechanical Powers, or the Mystery of Nature and Art Unvayled;' the third an 'Universal Mathematical Synopsis.' He also translated into English 'Directorium Generale Uranometricum' and 'Trigonometria Plana et Spherica, Linearis et Logarithmica; auctore Fr. Bonaventura Cavalerio Mediolanense,' and some other tracts which he designed to have printed if death had not prevented him."

Walford's "Greater London," Thorne's "Environs of London," Lysons's "Environs of London," *Home Counties Magazine* and several ancient authorities have been gratefully referred to.

The Foundations of a Carmelite priory at Linlithgow have been uncovered. It has been found that the main building was 120 feet long by 27 feet broad, with a wing to the south 56 feet long by 23 feet broad. The foundations were about 5 feet, and the walls, it is thought, must have been about 2 feet 9 inches in width. There appears to have been a small circular tower or buttress at the north-east corner of the chapel, and possibly another at the angle formed by the western wall of the wing and the main buildings. Plans have been made by Mr. Scott, architect, Linlithgow.

A New Lectern has been dedicated for use in the octagon of Ely Cathedral. The design is in harmony with the modern pulpit and screen and partly suggested by the canopied corbels which support Alan de Walsingham's fourteenth-century tomb, beneath one of which the lectern stands. The sculptured figures of queens chosen are typical of various periods in the history of Ely, from the time of the Saxon kingdom of East Anglia down to our own day. The figure which surmounts the desk is that of St. Etheldreda, the first foundress of the Minster in A.D. 673. The fourth figure is that of Queen Victoria. The work was carried out according to the design of Mr. Philip Thicknesse, Liverpool.

NOTES AND COMMENTS.

Florent Willems, the Belgian painter, who died at Neuilly on Sunday last in his eighty-third year, was at one time so much admired in Paris, he was regarded as a Frenchman. By some he was supposed to be the rival of Meissonier. His paintings recalled such artists as Metzu, Mieris and Terburg. He was a master in representing textiles of all kinds, and his *Silk Mercers in 1660*, which belonged to Napoleon III., was comparable with Mulready's *Choosing the Wedding Gown.* It was objected by critics that his women were more attractive by their dress than by their appearance, but in Paris that fault was easily pardoned. He was learned in everything relating to the old masters, and the French Government entrusted to him for restoration the *Saint John Baptist*, by Raphael, which is now in the Louvre. Some connoisseurs still believe in spite of all the trouble taken by Willems that it is only a copy of the painting in the Uffizi. Willems for over twenty years did not exhibit, but he produced enough works in the preceding time to establish a reputation.

Frascati, outside Rome, was in old days, as it is at present, renowned for its villas. Of those which have survived the Falconieri is supposed to be the oldest, for it dates from 1548. Many archæologists suppose that Cicero had a villa which stood on the site. It was restored and decorated by Borromini in a florid style. There have been several owners and occupants. Among the latter was Count Richard Voss, one of whose novels is called after the villa. The Trappist monks of Tre Fontane used it as a summer residence in order to escape from the malaria of the plain. They carried out some additions, but have endeavoured to preserve the character of the villa. It is now reported that a German banker has been able to obtain the property for the sum of 25,000*l.* It has been offered to the Emperor, who has arranged to utilise it for the German Academy of Fine Art. It will bear comparison with the Villa Medici, and it has "a hall of cypresses" in the grounds, which is unique.

The Kaiser is desirous to promote the unity of Germany as far as possible. German literature is not the product of any one kingdom, principality, or dukedom, and German art is in a similar position. The Kaiser has therefore approved that 2,000*l.* should be assigned towards the preparation of a descriptive handbook of German art from Mediæval to modern times. The authorities on art in the different parts of the empire are loyally co-operating to render the work a success. As it will be necessary in describing each object to have an actual observation of it, it is needless to say the amount of labour which will have to be expended is incredible. The work, when completed, while representing the German mind in art will also do justice to local variations. The relations between various schools will become manifest, and from the examples it may be possible to evolve a national style.

During the excavations to form deep trenches for fruit trees, Mr. Stephenson, the late chairman of the Cambridge County Council, revealed on his estate between Burwell and Landwade the foundations of a Roman house. In one room there was a tesselated pavement of great interest, as a large part of it is in a fair state of preservation, and it is the only one of the kind which has been found in this part of England. After spending a considerable amount of money and labour upon it, Mr. Stephenson generously handed it over to Professor Hughes, of Cambridge University, to be disposed of at his discretion. With the help of Mr. Robert Edwards, the clerk of the works of the Sedgwick Museum, Mr. Gray, first attendant, and other members of the staff, all that remained was safely removed to Cambridge, the expenses of the removal being defrayed by the Cambridge Antiquarian Society. The pavement is now in the Museum of Economic Geology among other specimens of ancient and modern building material, in a position where it can be well seen, and where it may remain until, perhaps, by-and-by some other equally suitable place may be found for it among collections illustratlve of history or archæology. With Mr. Stephenson's approval it has been formally made over to the University.

All who take an interest in houses for the humblest classes in towns should study a sixpenny pamphlet by Mr. John S. Nettlefold, chairman of the housing committee of the Birmingham Corporation. It is entitled "A Housing Policy." It appears that in Birmingham in January 1902 there were 2,365 houses declared to be unfit for habitation; 258 were demolished, 560 were rendered habitable and 283 are undergoing repairs. The whole of the improvement has been done at an insignificant expense to the Corporation. The owners had to carry out all the work under the supervision of a Corporation inspector. It appears that thirty-three courts have been opened to their respective streets by the removal of sixty houses, at a cost to the Corporation of 1,040*l.*, and at a cost to the owners, including repairs done to houses in the courts, of 15,260*l.*, showing an expenditure by the owners of over 10*l.* for every 1*l.* spent by the Corporation. Mr. Nettlefold does not believe in the municipality undertaking immense building schemes. Even the small experiments by the Corporation in Birmingham do not appear to have been successful. He advocates the firm but friendly enforcement by local authorities of the powers entrusted to them by Parliament under Part II. of the Housing of the Working Classes Act, 1890. So long as landlords are allowed to let and tenants allowed to inhabit insanitary houses, so long will cheap and nasty dwelling-house accommodation abound, to the detriment of the whole community, but when it is recognised that bad housing accommodation will be condemned by the sanitary authority, in the same systematic way that bad food is already condemned, then a demand for good houses will arise, and a supply will follow that demand as day follows the night.

ILLUSTRATIONS.

CAMBERWELL BATHS, OLD KENT ROAD.

ST. OSWALD'S CHURCH HOUSE, OSWESTRY.

The building is designed for general parochial purposes and to provide accommodation for a young men's club. It contains on the ground floor a large hall with platform and ante-room, a billiard-room with refreshment bar attached, and a large reading-room on the first floor. The materials used are red brick, rough-cast, stucco and Vrynlog slates. The contractors are Messrs. Jones & Evans, of Oswestry, and the architect is Mr. E. C. Frere, A.R.I.B.A., of 29B Lincolns Inn Fields, W.C.

NEW CHURCH OF ST. THOMAS, EAST KIRKBY, NOTTINGHAMSHIRE.—INTERIOR.

PROPOSED SHOPS AND FLATS, BRIGHTON ROAD, CROYDON.

DESIGN FOR A HOUSE AT WESTGATE-ON-SEA.

DESIGN FOR VICTORIA MEMORIAL.

In the description of the doors of the Westminster Cathedral published last week, Messrs. Samuel Elliott & Sons, the makers, were described as of "Reading and Newbury." The address should have been Caversham Joinery Works, Reading, as Messrs. Elliott & Sons have left Newbury.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last at Tufton Street, Westminster, Mr. Louis mbler, vice-president, in the chair.

The following were elected as members :—Messrs. R. G. chute, A. D. Mallandaine, E. S. Hall, H. T. Barnard, D. L. olomon, D. G. Hake, W. H. Crauford, F. J. McC. Maxwell, . C. W. Dakers, W. H. Wilson, H. V. Love, L. G. H. IcCredie, A. E. Harris, A. W. Hall, R. H. Cock, W. G. R. andall, jun., C. J. Bathurst, A. MacConnell, R. P. Oglesby, . F. W. Rolfe, R. W. Fry, H. Doré, R. S. Prideaux, . J. W. Whitehead, A. T. With, A. E. Vey, W. I. Keira, . E. Fellowes Prynne, W. E. Treat, H. A. Ross, H. W. rittan, E. J. Haslehurst, F. D. Danvers, R. Pierce, W. G. ale, J. Newton, C. W. Denton, W. H. Huckvale, S. P. chooling, T. M. Ellis, R. W. Cable, L. Keir-Hett, R. O. ridger, D. G. Shrubsall, R. Knowles, P. J. Waldram, . G. de Parada, W. B. Jones, E. Newman, A. G. Blackford, V. Cook, jun., H. M. Robertson, B. F. Matthews, T. H. arrow, L. S. Wood, E. E. Morgan, O. R. Davis, W. H. ouw, T. M. Swales, A. R. C. Eaton, F. S. Jasper, G. T. ower, G. Sanderson, F. H. Knight, W. J. Jones, G. C. Vilson, F. G. Troup, C. D. Carus Wilson, H. Battiscombe, . A. Tilden, A. L. Levy and V. Rienaecker.

Mr. H. Chatfeild Clarke was reinstated a member.

Mr. F. HOOPER proposed the adoption of the Council's eport and balance-sheet for session 1904-5. He said he ould not omit an expression of indebtedness on behalf of e Council and the members generally to the Royal nstitute of British Architects for their continued support nd for the fourteenth annual donation of 100*l*. The building nd debt had been reduced to the round sum of 1,000*l*., nd it was hoped that members would make a great effort uring the current session to wipe off the deficit.

Mr. S. J. TATCHELL formally seconded the motion.

Mr. ANDREW OLIVER read a paper, illustrated by lantern iews, entitled :—

otes on the Ecclesiastical Buildings of the City of London.

In dealing with the ecclesiastical buildings of the City f London it must not be forgotten that the edifices at resent in existence form but a small portion of those that vere originally constructed. Various causes have left their ark to account for the destruction which has taken place t various periods amongst these monuments, erected by ormer generations in the vain hope that they would exist or all time. But although the original edifices have so ompletely disappeared, yet we are able to reconstruct em, and so we are enabled to see before us the glories of onastic London as it was in the palmy days of its ecclesiastical grandeur, the splendour of whose ruins can only e compared with those of Newark, Fountains and Glastonury. The first great wave of destruction, not only in ondon, but over the whole of England, took place in the eign of Henry VIII. and his successor, Edward VI., and it vas at this period that the whole of the monastic edifices of e City were swept away. The second period of destruction ok place at the Great Fire of 1666, when not only did the ew remnants of the monastic establishments utterly vanish, ut nearly the whole of the churches of the City were overhelmed in the general ruin. It will thus be seen that ere can exist, owing to these two great influences, but few kamples of ecclesiastical architecture belonging to the arlier periods, as the majority of those at present in existnce date from the period which came after the Great Fire f 1666.

We will now take the subject under the following eads :—(1) Monasteries; (2) Churches before 1666;) Wren's churches.

Monasteries.

The religious orders to which they belonged were the enedictines, who had three nunneries—St. Helen's, ishopsgate; Holywell, Shoreditch; and the Black Nuns, lerkenwell. To the Carthusians belonged the Charterouse, the Cistercians, the Abbey of Eastminster. To the rey Friars or Franciscans belonged the Monastery of the rey Friars, Newgate; Christ's Hospital, where the Bluecoat chool used to be; the Black Friars, or Dominicans; and, st outside the City, the White Friars, or Carmelites. The ustin Canons possessed the greatest number of establishents—St. Bartholomew, Smithfield; St. Martin's-le-Grand, . Mary of Bethlehem, and St. Katharine of the Tower; e Priory of the Holy Trinity, Aldgate; and St. Mary ital, Shoreditch; the Nuns of St. Clair, or the Minoresses, minor order of the Franciscans, where the Minories now is. The Austin Friars had a house which was near Broad Street. The Preceptory of the Knights Templars in Holborn, and later at the Temple; the Knights of St. John, or the Hospitallers, at Clerkenwell. All that now remains of the foregoing is the chancel of St. Bartholomew, Smithfield, and part of the cloister of the church of St. Helen's, Bishopsgate; the nave of the church of the Austin Friars, part of the Charter-house, the gateway, crypt and the nave of the Priory of St. John, Clerkenwell, and the Temple Church.

St. Martin's-le-Grand, 1056-1548.—This was the greatest of all the monastic edifices in the City, as well as being the most important. It was founded in 1056 for a dean and secular canons, and dedicated to St. Martin, with the additional title of Le Grand, and extraordinary privileges of sanctuary. It was one of the churches from which the "curfew" was rung. Edward I., in his orders to the City for keeping the peace, commanded that henceforth none should be so hardy as to be found wandering in the streets after curfew bell at St. Martin's-le-Grand. The college was surrendered 1548, the church being pulled down the same year. The General Post Office now stands upon its site.

Holy Trinity Priory, 1108.—The priory was founded in 1108 by Maud, wife of Henry I., in which she makes it "free of all subjection to St. Paul's," and gives to it "the gate of Aldgate." A charter of Henry I. grants that "the canons may close the way which runs between their church and the City wall," and a charter by a son of Stephen mentions that Maud and Baldwin, children of Stephen, were buried here. The "Liber Trinitatis," of which a translation is at the Guildhall, was written by Thomas Axebridge early in the fifteenth century. It states that the priory was founded in 1108 by Queen Maud, in the place where Syred had of old a church, in honour of the Holy Cross and St. Mary Magdalene. Norman was the first prior, and "he built the gate of Aldgate from the foundations." Queen Maud wished to be buried there, but she was buried at Westminster in 1118. In 1132 the church was burnt, with nearly all its offices. Prior Norman died in 1147, and was buried before the high altar, and King Stephen's son and daughter were buried on the north and south sides of the altar. The plan shown is taken from the *Home Counties Magazine*, and it is a copy of the original now at Hatfield House. It bears the signature of John Symons, and it is dated 1592. The dimensions would appear to be—length, about 245 feet; width, 69 feet; and across the transepts 120 feet. The chancel is eight bays in length, including the lady chapel, and two apsidal chapels are on the north and south sides; the nave seven bays up to the western pier of the central tower. The chapter-house is entered on the north side from the cloister, is square in form, and around the cloister are the usual offices attached to the priory. The plan shows the way in which the old buildings were turned into a dwelling-house. Coming down to later days, we can trace where the old buildings stood. The chapter-house site, and probably the walls, became St. James's Church, Duke's Place; Mitre Square occupies the site of the cloister, whilst Mitre Street passes right through the church and over the site of the high altar and over the graves of the children of King Stephen.

Holywell Priory, Shoreditch, 1127-1539.—It was founded in 1127 by Robert Fitzjohn, prebendary of Halwich, and was dedicated to Christ, the Blessed Virgin Mary and St. John the Baptist. The holy well from which it took its name was dedicated to St. Agnes. The entrance was through a gateway, which was standing in 1785. In the courtyard stood the priory church, probably of late Norman date, with windows Early English and Decorated. A chapel of early sixteenth-century work upon the south side, next Bishopsgate, erected by Sir Thomas Lovell. In the glazing of the window these lines—

> All the nuns of Holywell
> Pray for the soul of Sir Thomas Lovell.

Or, according to another authority—

> All ye nuns of Holywell,
> Pray ye, both day and night,
> For the soul of Sir Thomas Lovell,
> Whom Henry the Seventh made Knight.

It was suppressed in 1539 and taken possession of by Henry Wells by grant on August 5 and September 23, 1544. The whole site is now occupied by the Great Eastern Railway.

Blackfriars, 1176-1538.—This consisted of precincts, church, sanctuary, with four gates. It was founded in 1176, being removed from Lincoln's Inn Fields. New Inn now occupies the site of the first monastery. Edward I. gave them a charter and granted them permission to take land between Castle Baynard and the Tower of Montfichet, and also to pull down the City wall and take in all the land as far as the Fleet river, and also denied the City to rebuild the wall at the City's cost. The church, it would appear, was a very fine structure, about 66 feet in width by 230 feet in length, or rather larger than St. Saviour's, Southwark. There were two aisles, chancel, a cloister 110 feet square, with chapter-house to the west 44 feet by 22 feet. The cemetery, on the north side, was 90 feet by 200 feet. It was surrendered in 1538.

The Greyfriars, or Franciscans, 1225-1538, occupied the site of the Bluecoat School, or Christ's Hospital. The monastery was founded in 1225, the choir built in 1289. The nave and the other monastic buildings were erected later. The whole church was rebuilt and enlarged between 1306 and 1327. It will be noted from the plan that it shows some peculiarities. There were no projecting chapels, but the aisles were very wide, to allow of them being placed there. The nave was seven bays in length, with transepts and a central tower. The choir was also seven bays long, being screened off from the nave, and space provided for four altars. Along the centre of the choir there was a row of tombs. On the inside of the church was the great cloister, chapter-house, dormitory and library, and the way to the fratery, infirmary and other offices was through the cloister. In 1538 it was suppressed, and the Bluecoat School established there a few years later. The present church of Christ Church occupies part of the site of the ancient choir.

Priory and Hospital of St. Mary of Bethlehem.—The Lunatic Hospital was removed here at the suppression, and afterwards to London Wall, and in 1814 to St. George's-in-the-Fields.

The Eastminster or St. Mary of Graces.—Of this once magnificent building no records are known as to what the buildings were.

Churches Erected before 1666.

In the second of these divisions we find a complete sequence of architectural style from the Early Norman period to the middle of the seventeenth century.

The buildings may be classified under the periods as follows:—

The Norman period:—St. John's Chapel in the Tower; St. Bartholomew, Smithfield; the crypt of Bow Church; the west end of Allhallows, Barking; the sacred church of the Temple, and the crypt of St. John's, Clerkenwell.

The Early English period:—St. Ethelburga, Bishopsgate.

The Decorated period:—Great St. Helen's, the Austin Friars Church, Bishopsgate.

The Perpendicular period:—St. Andrew Undershaft; St. Olave, Hart Street, and St. Giles, Cripplegate.

Transitional, Perpendicular and Renaissance:—St. Katharine Cree.

The earliest example of ecclesiastical architecture that there is in the City is the Chapel of St. John in the Tower.

The exact date is somewhat uncertain. Gundulph, bishop of Rochester, built the White Tower about 1178, so that it is probably the date of the chapel, or maybe a little later. The chapel is divided into a nave and aisles with ambulatory and an apse. The arcade is supported by twelve piers and two responds, of which six form the apse; the aisles vaulted with a plain ground vault. The arches are plain and rest on massive caps. Above this arcade is a triforium gallery. The whole is covered with a barrel-vault.

St. Bartholomew, Smithfield.—It was founded in 1123, and the founder, Rahere, became the first prior of the monastery. The Norman work on the chancel (what is now the nave) was executed by Rahere and his successor between 1123 and 1174. The transepts, with the Early English work, were added during the ensuing fifty years, and possibly the nave, the site of which is at present occupied by the churchyard, and also the gateway. To the Perpendicular period belongs the range of clerestory windows and what is known as Prior Bolton's Pew and the Tomb of the Founder. The so-called pew is, in all probability, a watching loft, like we find at St. Albans and other places. The clerestory windows in the apse are modern, and were the work of Sir Aston Webb. The lady chapel is of Early English date, and is entered from the ambulatory of the choir at the east end. The plan shown gives the position of the monastic buildings which formerly belonged to it.

The Temple, 1185-1312.—The Knights Templars existed for about 200 years, 1118-1312, and their first settlement was in Holborn, near Southampton Buildings. In 1180 they came to the present Temple. The church was consecrated (1185) by Heraclius, patriarch of Jerusalem. The original church consisted of a round nave, the choir being added in 1240. The church consists of porch, a round nave and choir. The west doorway is Transitional Norman. The piers consist of Purbeck marble columns, with capitals which support pointed arches, over which is an arcade of intersecting semicircular arches. The clerestory windows above are round-headed; the choir, five bays in length, with nave and aisles. The vault is carried on marble shafts with richly-moulded capitals.

St. John's, Clerkenwell, 1100.—The Knights of the Order of St. John are said to have settled at Clerkenwell about 1100. The earliest portion of the present chapel, now the crypt, was erected at the end of the eleventh century. West of this there was situated a round church similar to the Temple Church, which was consecrated the same year, *i.e.* 1185. The original chapel then became a crypt under the new church. The plan of the crypt consists of a nave of five bays, with chapels at the eastern and on the north side of one bay only, and on the south of three bays. There are other chambers on the northern side. The original chapel was of three bays, and perhaps terminating in an apse. Upon the building of the church above, the crypt was lengthened to the extent of two bays. The eastern end of the present crypt marks the extent of the priory church. The crypt and present church represent the length of the choir.

Austin Friars.—Founded in 1259 by Humphry de Bohun, Earl of Hereford and Essex, the church, originally cruciform, containing nave, chancel, transept and central tower, was entirely destroyed, excepting the nave, by Sir W. Paulet. The spire is marked in Vischer's map. The chancel extended as far as Broad Street, and the site is marked on the Ordnance map adjoining the chancel of the church of St. Peter-le-Poer. It is now used by the Dutch Church.

The Charter-house.—It was founded in 1301 by Michael de Northbury, bishop of London. By Royal permission it was named "The House of the Salutation of the Mother of God." Another benefactor was Sir Walter de Manny, who gave thirteen acres of land to the monastery. There is not much now left of the old buildings, which were suppressed in 1537, and the Charter-house School was founded in 1572 by Thomas Sutton.

Great St. Helen's, Bishopsgate.—This was the church attached to the Benedictine nunnery. It consists of a north aisle, or what is termed the nuns' aisle. This was entered on the north side from the cloisters, the doorway of which is still to be seen, together with a curious squint. This aisle was separated by a screen from the parochial nave which has a transept and ten eastern chapels. This establishment, with refectory, chapter-house and other buildings was practically complete until the end of the eighteenth century, when it was bought by the Leather-sellers, and their present hall and St. Helen's Place were erected on the site. In the year 1475, or soon after, great alterations were made, as Sir John Crosby left a sum of 500 marks. This consisted in the removal of the screen between the nuns' aisle and the nave and the insertion of larger windows. He directed his body to be buried in the chapel of the Holy Ghost within the parish church of St. Helen within Bishopsgate. He also bequeathed various sums to the prioress and nuns and also to the parish priest thereby making a distinction between the two foundations. The site of Crosby Hall was leased to him for ninety-nine years at an annual ground rent of 11*l.* 6*s.* 8*d.*, by Alice Ashfield, the then prioress. In 1538 the property was surrendered to King Henry VIII. and by him given to Thomas Croswell, who, as we are told by a deed in the MSS. Department at the British Museum, sold it for the sum of 300*l.*

St. Ethelburga.—Before the suppression of the monasteries this church was attached to that of St. Helen's. I consists of a nave, chancel and south aisle, with clerestory. The porch shows remains of tenth-century date. The view given is of the date 1782, and it shows the changes tha have taken place since that date.

Allhallows, Barking, was formerly attached to Barking Abbey. It consists of nave, chancel, aisles and clerestory. The piers at the west end are of Norman date, and the eas end belongs to the Perpendicular period. Richard I. added a chapel on the north side. A brotherhood was establishe here in the reign of Edward IV., and Richard III. establishe a college of priests, all of which were abolished in 1548.

St. Andrew Undershaft.—The church dates from the early part of the tenth century. The northern portion and part of the south aisle were built at the expense of Sir Stephen Jennings, Lord Mayor, 1508, and it was completed n 1523 by William Fitzwilliam. It consists of a nave and aisles, and clerestory and a lofty tower. The most interestng monument is that of John Stow, the earliest writer upon London, and to whom all authors upon the subject owe a debt of gratitude. The name Undershaft is given, as t stood originally under the maypole, or shaft. The church of St. Mary Axe was taken down in 1561, and its parish united to it in 1561. It is a well-known district for second-hand clothes dealers, as the old lines inform us :—

> Jews of St. Mary Axe are so very wary
> That for old clothes they'd even Axe—St. Mary.

St. Giles, Cripplegate.—The cripples had nothing to do with the name. It comes from the Saxon. The church s the successor of one erected about twenty-four years after he Conquest. A brotherhood of St. Mary and St. Giles was founded there by Queen Matilda. The church was partially rebuilt after a fire in 1545. Perhaps the most interesting person baptized here was John Milton, the author of "Paradise Lost." Foxe, the author of the "Book of Martyrs," was buried here, and Sir Martin Frobisher, the old Elizabethan sailor and explorer. Oliver Cromwell was buried here, as the register records. In the churchyard is a part of one of the old bastions of the Roman wall. The shops, which formerly hid the north side, have been taken down, and a statue of Milton has been erected on the site. The church, in the Perpendicular style, consists of nave, chancel and aisles. The steeple contains twelve bells.

Churches erected after 1666.

The series of buildings which followed the Great Fire, and which were the work of Sir Christopher Wren, were different in every respect from those which had been erected at a previous period. Up to that date the church architecure of the City resembled in style, the detail and general arrangement that which was usually to be found in the architecture of the country ; but, with the advent of Wren, a new style was created, and which belonged solely to the City of London. There is no city which shows such a great variety in its towers and spires, or in its church architecture, and all of this may be said to be due to the genius of one man. As may be supposed, there is much more generalness in the design of some of the examples ; but his may not be the fault of the architect, but through ircumstances over which he may have had no control. But even if we allow this to be the case, one cannot but be struck with the beauty of many of the designs, and f their adaptability to the surroundings. They show not only great power in design, but, if we examine them, a marvellous grasp of constructive detail. The whole range f construction seems to have been drawn upon, hardly any f them being constructed in a similar manner.

St. Paul's.—The present cathedral of St. Paul, the grandest f Sir Christopher Wren's works, is the third building which as been erected. The first cathedral is said to have been founded in 597, and destroyed in 1087 by fire. In this latter year a new cathedral was built in the Norman style.

In the year 1240 the choir was rebuilt and enlarged by eing extended over the site of the church of St. Faith, when the parishioners were given the use of the crypt, and t was called St. Faith under or in St. Paul's in 1256. The ower and steeple were completed in 1221, and the latter was burnt in 1561 and never rebuilt. It is said that part of he stone intended for the rebuilding of St. Paul's steeple was given by Charles I. to the Duke of Buckingham to use n the building of Buckingham House. Some of the present Watergate is built out of this stone originally intended for t. Paul's. The cathedral was partly repaired by Inigo ones, who added the Classic porch or narthex at the west nd. Sir Christopher Wren was called in, and he proposed o take down the Gothic arches and substitute round ones f a neat Classic style, and erect a dome in place of the ower. These works were all stopped by the Great Fire, nd various attempts made to patch the edifice, but these eing futile, there came Wren's opportunity for the present uilding.

The Rebuilt Churches.—In the Harley MSS. 4941 (British Museum) there are three schemes for the rebuilding of the estroyed churches, the number first proposed being thirtyine, but this was altered in the final arrangement to fifty hurches, St. Paul's not being included, as it was considered t the time the matter was brought forward that the cathedral could be made suitable for public worship. In addition to these there were some rebuilt in the eighteenth century, about a dozen in all, by Nicholas Hawksmore, who rebuilt St. Mary Woolnoth ; George Dance, Allhallows-on-the-Wall ; and some by other architects. None of these, with the exception of St. Mary Woolnoth, are of much interest, architecturally or otherwise, so it will not be necessary to refer to them more fully.

In describing the churches which were erected by Wren it will be impossible to give a detailed account of the buildings. All that can be done will be to enumerate a few of the leading examples.

Types of Churches.—In the churches which Sir Christopher Wren erected we find the following types :—

The basilica—*i.e.* a parallelogram divided by arches, at St. Michael, Cornhill.

A nave and north and south aisles, St. Mary-le-Bow.

At Allhallows the Great (now destroyed) a nave with only a north aisle.

St. Nicholas, Cole Abbey, shows a nave only, and at St. Stephen, Walbrook, we find the dome the leading feature of the interior.

In the planning of the churches which were rebuilt, in many examples they follow upon the old lines, and even occupy the original sites of the old foundations. In some instances the old walls have been reused, or refaced, and many of the towers still retain the work of an earlier period.

Although Sir Christopher Wren was, to a great extent, tied by the old boundaries, yet he departed in many instances from the original ground-plan and arrangement, and erected practically a new building.

Before this period most churches had followed one particular plan—*i.e.* a nave and aisles, separated by piers and columns.

A structural chancel was a rare feature in the London churches, most of which had been rebuilt in the fifteenth century without a chancel, the aisles being continued to the east end, a screen being used to cut off the portion which was used as a chancel.

The towers and spires of Sir Christopher Wren may be placed in four divisions :—(1) Towers, (2) towers with spires, (3) towers with lanthorns, (4) towers surmounted by a dome.

Towers.—This division contains one-half of the number, or twenty-five in all out of fifty examples which were erected originally. In many instances it is possible that the original walls of the structure were left or repaired, and all that was done would be to add to the original structure. The additions chiefly consisted of a parapet wall, and sometimes we find stone vases, obelisks, or other architectural features at the angles, and in some cases round windows or openings inserted, and the walls refaced with stonework.

The second division, "towers and spires," is of two kinds—"stone spires" and "wooden structures covered with lead." In the first we place the destroyed spire of St. Antholin, which may be said to have been a true spire and constructed in the Gothic style ; St. Bride, Fleet Street ; St. Mary-le-Bow ; St. Dunstan's-in-the-East, leaden spire ; St. Martin's, Ludgate ; St. Edmund, Lombard Street. Towers with lanthorns, as St. Stephen, Walbrook ; St. James, Garlickhithe ; St. Michael Paternoster. Towers with cupolas in lead—St. Magnus, London Bridge ; St. Peter, Cornhill ; and St. Peter Benetfink, destroyed. A stone cupola was at St. Mary Magdalene, Old Fish Street, now destroyed.

Dedication of Churches.

The saints to whom the churches were dedicated show that many were repeated, the largest number to one person being St. Mary, or the Blessed Virgin. Allhallows eight, St. Michael seven and St. Martin five ; four to St. Benedict or St. Benet, St. Botolph, St. Peter and St. Margaret ; three to St. Bartholomew, St. Nicholas, St. John, St. Stephen ; two to St. Anne, one with St. Agnes attached ; St. Clement, St. Dunstan, St. Christopher, St. James, St. Lawrence, St. Leonard, St. Mary Magdalene, the Holy Trinity and St. Mildred, St. Alban, St. Alphage, St. Antholin, St. Augustine, St. Bride, St. Denis or Dionis, St. Edmund, St. Ethelburga, St. Faith, St. Gregory, St. Gabriel, St. George, St. Giles, St. Helen, St. Magnus, St. Pancras, St. Swithin, St. Thomas, St. Vedast, the Holy Sepulchre or St. Sepulchre and St. Paul in the Cathedral. The dedication names present some peculiarities in names, as St. Margaret Pattens St. Benet Sherehog, St. Margaret Moses, St. Michael-le-Quern and St. Andrew Hubbard.

The number of parishes is also a curious feature, and by far the greater number of parish churches were to be found where the largest population was situated, near the river in the south-east.

St. Mary Aldermary, representing the old church of St. Mary, and a large number of parishes, all take the name of Mary, being formed out of the original parishes, as St. Mary-le-Bow, Abchurch, Woolchurch, Woolnoth, Bothaw, at-Hill and others.

Allhallows, it will be noted, has the next greatest number of dedications, Allhallows, Barking, being the oldest, that of Allhallows, Thames Street, being divided into the Great and Less.

Sometimes parishes were united, as when the priory of the Holy Trinity, Aldgate, was founded; it included the parishes of St. Mary Magdalene and St. Michael. St. Katharine and the Blessed Trinity were made into one parish, as Stow says, of the Holy Trinity, but St. Katharine was later given to the parishioners of St. Katharine Cree.

The dedication is sometimes shown externally, as at St. Lawrence, Old Jewry. The weather vane is in the form of a gridiron, or the gilded key of St. Peter, Cornhill.

In the names of the dedications we often find another name attached to that of the original saint, in order to distinguish one parish church from another. They may be grouped under the following heads:—Localities as St. James, "Garlickhithe or Hill"; founders as St. Peter "Benetfink." The other class of saint names only may be classified under:—Scriptural saints, St. Bartholomew; Danish or Anglo-Saxon, St. Olave; St. Botolph, to whom there was dedicated a church outside Aldgate, Aldersgate, Bishopsgate and Billingsgate; saints of the early Church, St. Pancras; English saints, St. Dunstan; founder of religious orders, St. Augustine; guild saints or company saints, St. Martin of the Vintners and St. Mildred of the Bakers.

Mr. J. D. **Crace**, in proposing a vote of thanks to the lecturer, said the paper had brought together an amount of information that must have taken great labour to accumulate. With the changes that were going on so rapidly day by day in London it was most valuable to have a record of ancient buildings. People hardly realised the existence of old London in walking about the modern streets, for not only had the buildings disappeared but roads replaced many of the conduits that extended to the outskirts of the City. Round churches had been mentioned. The Temple was a very good example, but there were churches of equal interest at Northampton and at Cambridge. In alluding to Old St. Paul's the speaker said it might be mentioned that the spire was destroyed in 1561. It was constructed of wood, and was then the highest spire in Europe, and must have made a magnificently picturesque object for London. Another point of interest in connection with old churches was that many of the dedications were to old Saxon saints, among others was St. Botolph. He was buried at Bury St. Edmunds, or somewhere in that direction, and the records showed that at the gates leading to his burial-place there was a church dedicated to the saint. The original name of Bow Church was connected with the arch vaulting beneath it, which was, in fact, a court of arches. When old Bow Church was rebuilt the vaulted crypt was built to commemorate its origin. They were greatly indebted, he said, to Mr. Oliver for bringing together such a quantity of useful information regarding old London, and the number of members present proved that the author had spoken upon a most interesting subject.

Mr. H. **Stannus** seconded the vote of thanks, and said he could not add anything to what had been stated. He was reminded, on looking at the views, of Street's remark about the beauty of London and how it impressed him when returning from continental journeys. There was a great interest attaching to many of the grand old churches, the majority of them built by their Roman Catholic forefathers, though they had passed into the hands of another Church. The church of St. Etheldreda in Ely Place, however, had returned to its old obedience. The paper they had heard was necessarily a very condensed one, but in the short time at his disposal Mr. Oliver had given a great deal of valuable information, and the meeting must feel grateful for such an interesting paper.

Mr. J. **Johnson** supported the motion, and gave the dimensions of towers and other details relating to churches built by Wren.

Mr. **Charles Lynam** said that although Mr. Oliver in his paper had undertaken a great deal, yet they must all admit he had accomplished his task very successfully. The lesson of the paper was that they should profit by the lecture, going to as many of the churches mentioned as they could, and finding out how much more interest could be got from such a visit by a knowledge of their histories.

Mr. **Banister F. Fletcher** said there were four round churches in England; the one not mentioned was at Little Maplestead. The principal point that they as architects would learn from the paper was that they had in London buildings from which they could study. They all knew that they must go direct to the buildings themselves if they wished to learn their history and construction. Many old churches were erected by Catholics, but in London the great majority were built by Protestants and for a Protestant form of worship.

The Chairman conveyed the thanks of the meeting to Mr. Oliver, and the evening terminated.

IMPROVEMENT OF TRAFALGAR SQUARE.

THE following memorandum of suggestions for the commemoration of the Trafalgar centenary by the completion and improvement of Trafalgar Square has been submitted to the First Commissioner of His Majesty's Works by the Navy League:—

General Considerations.

1. The dearth of public monuments either in London or elsewhere which (with the exception of Nelson's Column) adequately recognise the place that the Navy should fill in the history and life of the country.

2. That for the permanent public recognition of what the Navy has done for the national existence no site could be chosen so appropriate as the central space of a city which is at once the metropolis of the Empire and the greatest seaport in the world.

3. That the square is already to a large extent dedicated to the purpose by the domination of the Nelson monument.

4. That the square, which is so widely regarded as one of the finest sites in Europe, is in its present condition unworthy of its position and its possibilities—a fact which has long been recognised and deplored by the best artistic opinion both here and abroad.

5. That the recent improvement of the Mall will make this unworthiness still more glaring, whereas if the square were made, as it might be, a fitting termination for the new road the effect of the whole would be greatly enhanced.

6. That there seems a peculiar fitness in a grand processional road that begins at the palace of the King of England ending at a spot consecrated to the peculiar glory of his realm as the great sea Power of all time.

Possibilities of the Site.

1. *The Two Large Pedestals at either End of the Terrace.*—One of these is still unoccupied, giving an air of incompleteness to the square. The other is occupied by an equestrian statue of H.M. George IV., who, as the sovereign under whom as regent the final triumph was won, might well occupy a more central position, either in the square or upon the terrace. Really fine groups of statuary on these pedestals would at once go far to redeem the meanness of Nelson's surroundings.

2. *The Fountains.*—The dearth in London of this, perhaps the most taking and effective of all forms of civic decoration, is the remark of all intelligent travellers. The existing fountains are quite unworthy of the site and of the fine basins they occupy.

No better opportunity for impressive naval monuments could well be imagined than these basins offer, nor could any form for such monuments be better than majestically designed fountains such as give so much beauty to Rome and other capitals.

3. *The Terminal Pillars at the South End of the Enclosing Walls.*—These now carry poorly-designed lanterns, but they seem well fitted either for *columnæ rostratæ* or, better perhaps, columns which would compare well with that of Nelson, and which might be surmounted by figures of Victory and inscribed with the names of great admirals and memorable actions.

4. *The Tube Station.*—This would probably have to be dealt with with something in the nature of an architectural entrance. The new feature might be balanced by a drinking fountain of similar design upon the other or west side of the Column—both being used to commemorate admirals or victories.

5. *The Revetment Wall of the Terrace.*—This is now eculiarly mean and naked, and it affords excellent opportnities for decoration by bronze reliefs and medallions.

6. *The Lamp-posts.*—In these the place reaches its depth meanness. They are meagre in the extreme, and do not en adequately serve their purpose. A simple and inpensive alteration here would again go far to improve the hole, while the possibilities which lie in well-designed mp standards, both for decorative and commemorative rposes, are well known to artists in spite of the wide glect of them in this country.

Subjects for the Decorations.

Statues of admirals will probably be set aside as at once stly and ineffective.

In preference a comprehensive design is suggested hich might aim at representing in broad lines the general story of the growth of British supremacy at sea. This sts on three main achievements :—

1. Against Spain,
2. Against the Dutch,
3. Against France,

rresponding roughly to the sixteenth, seventeenth and ghteenth centuries. No. 3 is already represented by the elson Column, commemorating the culmination of the riod. Nos. 1 and 2 might be represented by two groups -one celebrating the defeat of the Spanish Armada, the her the Cromwellian and Stuart victories over the Dutch. urther scope in this direction is offered by the Saxon and ediæval navies.

Positions for these groups would be found—

(*a*) On the two large pedestals.

(*b*) In the suggested fountains.

Nelson's masters and pupils might be grouped round im, and for this purpose the suggested lamp standards ight be utilised, plaques and medallions being worked to their design.

The earlier eighteenth-century admirals and late sevententh, *e.g.* Torrington to Hawke, could find memorials pon the terrace revetment.

It might also be well to emphasise the essential unity service between the Army and the Navy by special comemoration of great combined expeditions, such as Quebec, inorca and the like. For this there would be the sugested entrance to the Tube station and the drinking untain.

Alterations entailed.

The only serious changes that any such scheme as that ggested would entail would be a rearrangement of the isting statues.

(*a*) *The Statue of H.M. George IV.*—A better position for is has been already indicated.

(*b*) *The Statues of Napier and Havelock and Gordon.*—hese (the two former on better-designed pedestals) could robably be placed on the terrace, where they would have much more dignified effect than where they are, overadowed and dwarfed by the Column.

The above suggestions are intended only as a rough dication, by way of memorandum, of some of the glected possibilities of this splendid site, without any gard to finality or exhaustiveness or to the extent to hich it may be feasible to carry out part or the whole of em. The possibilities both of the site and the subject are finite, and justice could only be done to them by cometent authority working out a really comprehensive design.

The following reply was received from H.M. Office of orks :—

"Sir,—I am directed by the First Commissioner of His ajesty's Works, &c., to state, with reference to the recent terview which took place between him and the deputaon from the Navy League, that His Majesty's Government ill be prepared to consider some alterations in Trafalgar quare in commemoration of the Trafalgar Centenary rovided that a definite scheme and design be laid before em, to be embodied in plans and perspective views or evations.

Before any scheme, however, could be sanctioned it ould be necessary that His Majesty's Government should satisfied with the designs submitted and with the rangements for carrying them out; and in particular they ould require that sufficient money should have been raised d securely invested to satisfy them that any design which ight be approved could and would be executed without sistance from the State for its completion.

It must be clearly understood that the Government annot take any part in the formation of a committee to raise funds for or to carry out the scheme; nor can they sanction any contribution of public money towards the scheme.

I am to add that in preparing designs the committee should bear in mind :—

1. That the scheme to be executed must be limited by the funds available, so that the design should be susceptible of easy reduction or curtailment.

2. That while an alteration of the existing arrangement of statues may be possible, no general removal thereof can be sanctioned.

3. That no horticultural work is to be done in the square, the whole area of which must remain open to the public as at present.—I am, Sir, your obedient servant,

SCHOMBERG K. McDONNELL.

ARCHITECTURAL ASSOCIATION OF IRELAND.

THE annual general meeting of the Architectural Association of Ireland was held on the 17th inst. Mr. Harry Allberry, the president, was chairman.

Mr. H. G. Leask, the secretary, read the eighth annual report, which stated that the last session had been from every point of view one of the best since the Association was re-established in 1896. The class attendances were, in most cases, far above the average, and the enthusiasm shown by the members was evidenced by the work in the classes and the number of drawings submitted for the class prizes. Eighteen new members had joined during the year and five had resigned. The number of their members at present was 138. The increase of subscription decided on last year had had anything but a deteriorative effect. The report then stated that the new premises promised to fulfil admirably the purpose of a meeting-place for architectural students, as they comprised a large lecture hall and two rooms on the ground floor, which might eventually be turned into a museum, and four rooms on the upper floor, now in use as library, reading-room, committee-room, &c. The report then mentioned the lectures which had been delivered during the past session, and the visits paid during the spring to the Iveagh House and other buildings in Dublin.

On the motion of Mr. Sparrow, seconded by Mr. G. F. Beckett, the report was adopted.

The President read a letter from Mr. F. G. Hicks resigning his place on the committee owing to his inability to attend and discharge his duties connected with it. He paid a tribute to the services which Mr. Hicks had rendered to the Association, and said it was with regret that they accepted his resignation.

The President then read the inaugural address for the session, in the course of which he dealt with the general work of the Association and the beneficent results which had accrued from its revival, and with the achievements for which he hoped it might yet be noted. They were working to obtain the greatest educational benefit from the Association, and to uphold the standard of their profession. The revival of 1896 made itself felt in the senior body, which now, with its close attention to matters of architectural interest and grasp of policy, left little to be desired. The Irish Institute had made great strides towards a proper view of its duties as the governing body for the architects of Ireland. It was undesirable to bring the parent Institution into their discussions, whether to flatter or condemn, but he merely mentioned the point, and the fact that a Society of Architects had in recent years sprung into sturdy growth in Ulster, showing the increased interest which was now being evinced in the weal of their profession by those who followed it. He regretted that many of the senior architects had held aloof from their Association. To many of them they owed an immense debt of gratitude, but looking over the names of the practising architects of long standing in this country, they could not fail to be struck with the comparatively meagre assistance rendered by them to the Association, the objects of which were "to promote and afford facilities for the study of architecture and the allied sciences and arts, and to serve as a medium of friendly communication between the members and others interested in the progress of architecture."

The President said there was a rumour that the design of the buildings for the forthcoming Dublin exhibition would emanate from across the Channel. Architects at present in wealthy practice had perhaps no occasion to heed the signs of the times, but would it not be less selfish on their part to take thought for their successors and help them forward for battle in the years to come? Their ideal policy should not be that of the sealed compartment; it should be rather that of the open door, welcoming all competition, copying what was best and improving what might be bettered. The President then urged the importance of forming an Architectural College in Dublin on the lines of that at King's College, London. He also pointed to the necessity of giving lectures and holding examinations in connection with their profession, so that architects might possess proof of their qualifications. The President concluded amid applause.

Mr. W. M. Mitchell proposed a vote of thanks to the President for his able paper.

Mr. J. H. Webb seconded the motion, which was supported by Messrs. Beckett, Butler and other gentlemen, and adopted amid applause.

ARCHITECTURAL REFINEMENTS.

IN connection with the exhibition of drawings and photographs illustrative of architectural refinements present in Italian and French churches, the first of a series of lectures was given by Mr. William Henry Goodyear, of the Brooklyn Institute of Sciences and Arts, in the lower hall of the Scottish National Portrait Gallery, where the exhibition is being held. Mr. H. O. Tarbolton, president of the Edinburgh Architectural Association, presided. In introducing the lecturer, the chairman expressed their appreciation of the action of the Brooklyn Institute in allowing Mr. Goodyear to return to this country so soon again. In crossing the Atlantic Mr. Goodyear had had a very stormy voyage, and on that account they ought to give him all the warmer a welcome. The subject was one which appealed to all interested in architecture, and he hoped the short course which was to be given by Mr. Goodyear, who was so well qualified to speak upon it, would be largely attended.

Mr. Goodyear, who was cordially received, commenced his lectures by a reference to the cathedral of Pisa and its associated buildings, to which his attention had been given for the past twenty-five years. By the aid of limelight views he showed the variations which were to be found on the façade of the church on the horizontal and vertical building lines—variations which, he said, escaped general observation. He discussed the question whether these were due to subsidence or to other accidental causes, or whether they were intentional and were intended to produce certain optical and pleasing illusions, possibly by deviations from straight lines. He firmly held the view that the facts of the case of Pisa entirely precluded the theory of subsidence or accident, and argued that these refinements were the deliberate work of architects and builders. These architectural refinements took many forms both inside and outside French and Italian cathedrals, but they were present in larger numbers in the church of Pisa and St. Mark's, Venice, than in any others. In the elaborate arcaded façade of Pisa, for example, he showed that the first storey had a lean forward of a foot, the second a set-back of 6 inches, the third and fourth a lean forward of a foot and of the tenth of a foot respectively, while those higher were perpendicular. These variations, many thought, were intended to give the façade an appearance of greater height than it really possesses, while inside churches various devices were used to correct the harsh perspective of straight lines, or to make the interiors appear larger than they really are.

In his second lecture Mr. Goodyear said the folly of the argument that the builders of the Middle Ages were incapable of creating picturesque effects was demonstrated by an examination of various startling asymmetries in the cathedral. The columns of the nave, he pointed out, were of irregular size, because they were obtained from various ancient ruins in Sicily. But the arrangement of these columns was proved to be schematic, because they found that all the large columns were on the south side of the nave, and all the small columns on the north side. The law of chance showed that such an arrangement must be schematic. The average difference of height between the two ranges of columns was over a foot and a half. This decentred the church optically, and gave an agreeable effect of the quartering view when the church was studied from the exact centre. The arrangement also produced a confusion of optical effects resulting in a sort of optical vibration or an effect of "life." In the same way the columns of the south transept were $2\frac{1}{2}$ feet higher on the west side than they were on the east side. It was inconceivable that all the larger
columns should have been placed on one side of the transe
by accident. The levels of the great string-course whi
divides the lower storey of the cathedral on the exteri
were described in detail. These levels had been taken f
the pavement as well. To the east of the west sides of t
transepts the cathedral was built to the earth's surface,
that the pavement was $4\frac{1}{2}$ feet lower at the south-east ang
of the choir than it was at the north-west angle of t
façade. The cornice was carefully built to the same slop
on the east of the west sides of the transepts, but on t
west sides of the transepts and on the sides of the ma
body of the cathedral another system is found. Here,
both the north and south sides, the string-course slop
downward toward the transepts, being 2 feet out of lev
as compared with the plinth-course, and about the sam
amount as compared with the true level. On the oth
hand, the string-course on the west sides of the transep
slopes down to the angle of meeting with the north a
south sides about 5 inches on each side as compared wi
the plinth-course, and in a direction opposed to that of t
slope of the plinth-course. The lecturer pointed out that
confusion of optical effects rather than an effect confined
any one direction was the inevitable outcome of th
arrangement, although it must also be admitted that
material increase of apparent dimension was also obtaine
for points of view facing eastward. As regards this optical co
fusion, he quoted Mr. Ruskin's self-confessed inability to dete
mine whether there was any slope at all in the string-cours
of the south wall, as mentioned by him in the "Lamp of Life
Referring to the tower, the lecturer described the observa
tions of Ranieri Grassi made in 1832, and the corroboratio
and extension of these observations by his own measur
ments in the spiral stairway. This stairway is built wi
varying heights according to its relation to the leaning sid
The spiral changes are so arranged as to make the stairwa
lower on the upper side and higher on the lower side of t
lean, thus throwing the greater weight of masonry on t
upper side, and so increasing the security of the constru
tion. No possible theory of explanation for such a succe
sion of changes in the heights of the spiral stairway can
advanced excepting the one that they were connected wi
the preconceived design of a leaning construction. Ther
was a special school of Pisan asymmetry, and we must
careful not to argue the existence of the same sentiment
territories outside of the Pisan influence.

SHEFFIELD SOCIETY OF ARCHITECTS.

THE opening meeting of the session of the Sheffie
Society of Architects and Surveyors was held
the 19th inst. The president, Mr. Edward Holmes, d
livered an address. He referred to the progress of t
Society. At the end of the first year of their existence,
1888, the Society had forty-seven fellows, twenty-s
associates and five students. The last report showe
thirty-seven fellows, forty-eight associates and fourte
students, a net increase of twenty-one. The results of t
Society's competitions were rather disappointing. Duri
the sessions 1903 and 1904 only two prizes were award
the essays in the others not being considered of sufficie
worth to merit recognition, whilst during the sessions 19
and 1905, out of four competitions, the prize was onl
awarded in one case. The lectures had been of
excellent character, but there was room for improveme
both in regard to the attendance and the discussions whi
ensued. The President next considered the housi
question, and dwelt upon the much-talked-of "Garde
City" schemes. In his opinion, many of the scheme
which had been formulated were chimerical and impract
able, but that should not prevent them thinking deep
on the subject. Their ideals could not be too hig
He impressed upon all the members the desirabili
of making themselves acquainted with the powers alrea
possessed by municipalities upon the subject, so as
enable them to consider in what way they could be amend
or enlarged. The question was intimately connected wi
the proposed new building by-laws, and the Council of t
Society would closely bear this in mind when they we
approached by the City Council on the subject, as they wou
be in due course. Whatever their individual opinio
might be, the subject was bound to come more and more
the front, and he advised the younger members to serious
take up this question of cheap sanitary cottages which
was sure they would find a profitable one. Another questi
which was worthy of their closest attention was the acqu

g by municipalities of open spaces and land in the
ighbourhood of large towns. The departure taken by
e City Council at their last meeting, when they approved
the acquisition of land along the Rivelin Valley for the pur-
se of opening out the valley by the construction of a road,
as to provide profitable employment for the unemployed,
as in his opinion but the commencement of similar
tion on a large scale by municipalities. It was also inti-
ately connected with the housing question. The existing rule
thumb system of street dedication was, in his opinion, tend-
g to cripple and narrow the dealings in land, to render
ery difficult the procuring of mortgages, and thus to raise
e price of buildings and the rents of small houses. They
lt it their duty to take up a strong position on the matter,
d most careful consideration was given to the subject, not
ly by the Council of the Society, but by a special com-
ittee of surveyors who were asked to draw up a report,
hich was afterwards submitted to the special committee
pointed by the City Council. Local and Imperial taxa-
on, the law as to right of light and the question of educa-
on were also touched upon by the President, who, in con-
usion, appealed to the members, especially the younger
es, to aim high. As professional men, let it be their aim
attain the highest qualifications for their calling, an aim
hich, if properly persisted in, could only result in happi-
ess and satisfaction to themselves and the appreciation of
eir fellow-citizens.

A vote of thanks was passed to the President, on the
otion of Mr. E. M. Gibbs, seconded by Mr. R. W. Fowler,
d supported by Messrs. Joseph Smith, T. Winder,
Osborn and J. R. Wigfull.

The following new members were elected:—Fellow,
r. F. Cartwright; students, Messrs. H. Green and F. N. D.
asters.

VICTOR EMMANUEL MONUMENT.

THE death of Count Sacconi, the architect of the huge
monument to Victor Emmanuel II., and the inter-
egnum which prevails until the appointment of his suc-
essor, have drawn public attention, says the Rome
orrespondent of the *Morning Post*, to the state and
rospects of that immense building which is to represent
alian unity in the heart of Rome. I have, therefore, taken
e opportunity of going all over the works, of which some
eptics say, as used to be said of Cologne Cathedral, that
ey will never be finished.

It is more than twenty-five years ago since Parliament
ecided on the erection of this vast pile of masonry, but it
as not till 1884 that, after two competitions, the choice of
n architect was made and a design was definitely adopted.
ount Sacconi's plan, now in course of execution, was to
ect a great colonnade supported by sixteen columns and
anked by two large square towers on either end. Above
e columns are to be allegorical representations of the six-
en regions of Italy, while in front of the wall which
pports the columns eight statues will be placed on
edestals. It was suggested that these statues should
present the leading men of the struggle for indepen-
ence, but the difficulty at once arose when it came
selecting them. The names of Cavour, Garibaldi
nd perhaps Mazzini occurred to everyone, though the great
epublican conspirator would be somewhat out of place
a niche of a royal monument; but the selection of
e other five names would have given rise to local
alousies and, in one or two cases, to party feeling. Hence
ount Sacconi inclined to take his eight heroes from olden
mes, though even so Mommsen would have excluded
icero as a mere journalist, and eminent archæologists
ight have objected to Romulus because he was not pre-
omulean. Accordingly this vexed question has not yet
een decided. In the very centre, in front of the colonnade,
ere has been already erected a large portion of the huge
edestal which is to support the equestrian statue of Victor
mmanuel II.; the cast of his horse is now finished, and
e horse itself is ere long to be founded here in Rome.
eneath this central figure it is proposed to have an alle-
orical representation of the cities of Italy doing homage to
ome. The building will also contain large chambers, which
ill serve as a museum for the banners and other trophies
the Risorgimento, which will be collected from all parts
the peninsula. There will be two entrances—one in
e front, up a fine flight of steps, from which a second
ight will lead to the base of the great statue, and
t another to each side of the colonnade; and a second
trance at the back, which will pass through a tunnel beneath the steps of Ara Cœli, and will thus communicate with the Campidoglio. The monument will stand 235 feet high and will face straight down the Corso, commanding a splendid view not only of the Piazza del Popolo, but of the mountains far beyond the Ponte Milvio. From the back one can see the Forum and the picturesque towns on the Alban hills, crowned by the monastery which the pious vandalism of our Cardinal York erected out of the ancient temple of the Latin Jove. Inside the monument is ornamented with rare old marbles, found in the bed of the Tiber and elsewhere, and brought by the ancient Romans from the most famous quarries of the world. Undoubtedly the whole when completed—and that cannot be before 1911 at the earliest, the Jubilee year of Italian unity—the monument will be grandiose, like the now finished Palace of Justice. Whether it will be beautiful is a point on which opinions differ; very modern Italians assure me that people will cross the Atlantic to see it; personally I think that Americans and Englishmen would prefer to see what it has displaced.

For there is here, as always in these modern "improvements," the reverse of the medal. Let us see what has been sacrificed to the greater glory of one of the simplest and least ostentatious sovereigns that ever lived. First, the picturesque sixteenth-century tower of Paul III., which those who knew Rome before 1887 will remember as one of the most fascinating of her landmarks, has been torn down. It may be said that this was only an act of poetic justice, because that very Pope tore down some 200 houses and several churches so that Charles V. might ride in state into Rome. But, standing in the little garden where are the broken remnants of the tower, the lilies of the Farnese, the halls of the Medici and the castles of Spain, one regretted that the architect had not spared the work of him who appointed Michel Angelo "sculptor and painter of the Vatican." But this is not all that has gone. The Franciscan Monastery, belonging to the church of Ara Cœli, where the general of the Order used to reside, has been pulled down, and a desolate well-head now alone remains as a relic of its ancient cloisters. Fifty houses have already perished in the cause of Victor Emmanuel, and—worst of all—the picturesque Palazzetto, adjoining the Palazzo di Venezia, is marked for destruction, so as to open up the view. This building, like the much larger Palazzo, is however, the property of the Austrian Government, and, indeed, the sole fragment left in Italy of Austrian rule over the possessions of the Venetian Republic. The Austrians are not desirous of selling it, but in time they will doubtless give way; with it, down will come the picturesque arch over the San Marco, the broken remains of the old connection between the Palace of Paul II. and the tower of Paul III. A clear space will then be made, and the Austrian Ambassador to the Vatican, from his windows in the Palazzo di Venezia, will then look straight on the statue of the king who took Venetia and Lombardy from his master. Finally, it seems a crime against history to burrow under the steps of Ara Cœli, erected to commemorate the Black Death and the one considerable monument of the Avignon Papacy now left in Rome. Fortunately, the authorities have spared the interesting and massive blocks of the ancient Wall of the Kings, which were found during the excavations for the foundations of the monument. It is appropriate that the first kings of ancient Rome should have their monument by that of the first king of modern Italy.

There is also a very practical criticism to be made of the monument—its colossal expense. Down to the middle of June 1902, when no visible constructive work had as yet been done, no less than 324,520*l.* had been spent on prizes, models, funicular railways, foundations and compensation for houses destroyed, the last item alone amounting to 149,320*l.*, which might have been enormously reduced had the statue been erected on the Janiculum or on Monte Mario. The desire to have it on the Capitoline has thus not only led to unnecessary destruction, but to unnecessary waste of money also, and this latter appeals forcibly to the taxpayer, especially if he happens to be one of the Garibaldians who fought to win Rome at Mentana in 1867, and who has had to wait thirty-eight years for his beggarly pension of 100 lire, and then finds that 12 lire is knocked off the 100 for income tax. Besides, the expenses above mentioned are only the beginning. Down to the end of last year some 400,000*l.* more had been spent, and there is over five years' more work to be reckoned before the bill is complete. Thus the original sum of 320,000*l.* voted by Parliament for the monument, even with the addition of another 57,509*l.* subscribed by the public, has long ago been exhausted, and last year another 120,000*l.* was granted. Much more will be needed before the last piece of scaffolding descends from the building. Continual strikes among the workmen—of whom there are 450 engaged on the building itself and in the small stoneyards near it, as well as in the larger ones outside the Porta Maggiore—have caused extra delay and expense. Now arises the question of a successor to the architect—a man who will loyally carry out his work and not seek to earn fame for himself by altering the design.

Modern Italy likes things big, and such will undoubtedly be the memorial of Victor Emmanuel II. But when we compare it with the great buildings of the Roman Emperors or of the Mediæval Popes we wonder whether, a thousand years hence, Macaulay's New Zealander will come to admire it, as his fellow-countrymen come now to admire the Colosseum or the Sistine Chapel.

Correspondence

Architects' Benevolent Society.

Sir,—May I ask the hospitality of your Journal to give further publicity to a matter which has already been referred to in your columns? In response to the appeal which I recently made on behalf of the Architects' Benevolent Society, Mr. Walter Emden offered to contribute 50*l.* if nine other gentlemen would give a like sum. Mr. William Glover, already a generous benefactor of the Society, has promised to support Mr. Emden's offer, and I shall be glad to hear from other gentlemen to the same effect.

In addition to forming one of the nine contributors, Mr. William Glover has promised a second donation if a further 450*l.* are contributed by nine, or any number of donors before Christmas.

I will not ask you to afford me the space to enumerate the merits of the cause, but for the sake of a Society which performs so beneficent a work among our poorer brethren, or their widows and orphans, throughout the United Kingdom, and which is urgently in need of funds, I trust the above offers will meet the support which they eminently deserve.—I am, yours faithfully,

John Belcher, President.

20 Hanover Square, London, W.:
October 25, 1905.

[We gladly publish Mr. Belcher's letter, which needs no comment, and hope that the results will correspond with the value of the Society, and be more than satisfactory.—Ed.]

GENERAL.

The Venice Municipal Council have appointed Mr. John Lavery, R.S.A., to be a member of the jury which will award the prizes at the International Exhibition.

The Competition between French and Spanish architects for the new offices of the Phœnix Espagnol Insurance Company has been decided in favour of MM. Jules and Raymond Février, of Paris. The first prize is of the value of 8,000 pesetas, or 320*l.*

Mr. Louis Ambler has consented to act as hon. general secretary of the Society of Yorkshiremen in London, which has a membership of 700. In 1678 Yorkshiremen in London established an annual festival. The present Society was reorganised in 1899.

The General Purposes Committee of the Hyde Town Council recently considered a proposal to spend 16,000*l.* upon a school for 1,200 children. Eight of the members were in favour of the scheme and eight against. To prevent a deadlock it was decided to constitute the eight objectors a sub-committee charged with the duty of reducing the estimate, if possible, or, alternatively, suggesting another scheme.

The Society of Architects.—The following officers and members of the Council for the year 1905-6 have been elected:—*President*—Mr. A. E. Pridmore. *Vice-Presidents*—Mr. G. A. T. Middleton, Mr. R. F. Vallance. *Hon. Secretary*—Mr. Ellis Marsland. *Hon. Corresponding Secretary*—Mr. W. R. Mallett. *Hon. Treasurer*—Mr. B. R. Tucker. *Hon. Librarian*—Mr. R. G. Bare. *Council*—Messrs. E. C. Beaumont, G. E. Bond, B. D. Cancellor, J. W. Dyson, E. M. Leest, C. H. Mead, D. Morgan, T. G. Price, T. R. Richards, Anthony Scott, W. Scott-Deakin, T. F. Tickner.

Mr. E. O. Griffith, of Chester, will execute the sculpt and carving on the new Liverpool Cotton Exchange, wh is to be carried out according to the designs of Mes Matear & Simon. Mr. Griffith is carrying out sim work on the new offices for the Mersey Dock and Harb Board.

A Memorial to the late Mr. Cecil Rhodes is to be erec on the Groote Schuur estate. The design of the memo is to be entrusted to Mr. Herbert Baker. It will take form of a bastion, approached by steps on either side. massive equestrian group by the late G. F. Watts, kno as "Physical Energy," will find a place in the centre of platform.

The Surveyors' Institution will hold the first ordin general meeting of the session 1905-6 on Monday, Nove ber, 13 when the president, Mr. Charles Bidwell, deliver an opening address.

Mr. W. H. Goodyear has consented to give a further ser of three lectures upcn the subject of architectural refi ments in the Scottish National Portrait Gallery, Edinbur on Friday, October 27, Tuesday, October 31, and Thursd November 2, at 8.30 p.m. A conference of the members the Edinburgh Architectural Association will be held their Rooms on Monday next, at 8.30 p.m., to discuss subject of architectural refinements. Mr. Goodyear will present, and will be glad to answer any questions t members may ask.

The Exhibition at the Guildhall next year will compr a selection of works by painters who have been born who have flourished on what is now Belgian soil. Galler will contain some eighty examples of the masters of fifteenth century; Gallery II., the works of painters of seventeenth century, which include Rubens and Vandyk and Galleries III. and IV., the works of the modern Belgi painters, including examples by Baron Leys, Alfred Steve and Henri Braekeleer.

Mr. William Jenkyns, who for many years was close identified with the late firm of Messrs. W. & J. Smith, c architects, Aberdeen, died at his residence in Aberdeen his ninety-first year. Mr. Jenkyns was born in Glasgow January 25, 1815, and had thus lived under five sovereig Among the more important works in which he was engag was the supervision of the building of Balmoral Castle.

Mr. John Green Waller, F.S.A., died at Blackheath la week at the great age of ninety-two. He had attained so distinction as an artist, as an archæologist and as a micr scopist. He was a pupil (with G. F. Watts and J. Horsley) at Sass's art school in Newman Street, and then passed into the Royal Academy schools, winning a Fr medal and life studentship in 1836. He obtained a medal the International Exhibition of 1851. He then devoted hims to archæology, and engraved a series of plates from Engli monumental brasses. Later he designed numerous stain windows, including the Chaucer window in Westminst Abbey.

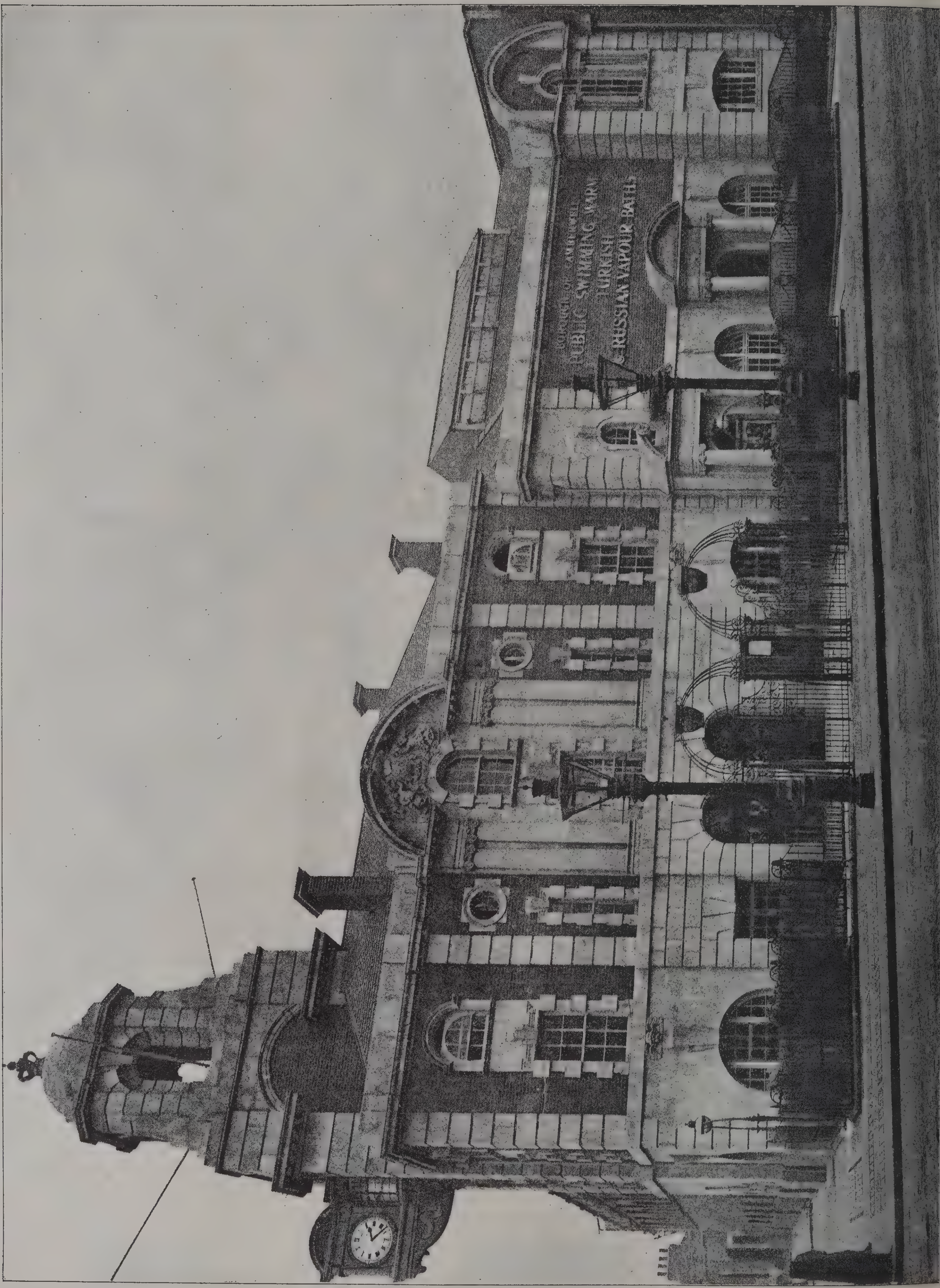
The Architectural Association of Ireland visited la Friday the new central fire-brigade station which is now course of erection in Great Brunswick Street. They we met by Mr. C. J. M'Carthy, the city architect, from who plans the building is being constructed, and shown over t entire works.

The Glasgow Architectural Association held last wee the first meeting of the session, when Mr. James Lochhea delivered his presidential address under the title of "Gen ralities," and dealt with the problems and difficulties modern practice, the solution of which was not to be fou in text books or college. The present contemplated schem of amalgamation between the three architectural bodies Glasgow would, if carried through successfully, incline n only to the advancement of the profession artistically, b by increased facilities for the interchange of ideas, result the curing of certain grievances which require redress.

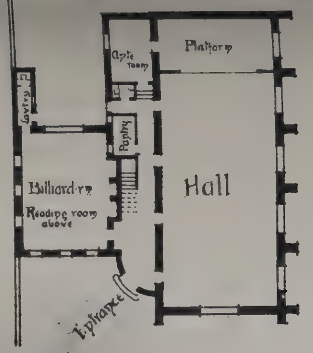
The Association of Municipal and County Engineers the number of nearly 200 held their annual district meeti at Tottenham on Saturday afternoon. They were receive in the council chamber of the new municipal offices (whic have been erected at a cost of nearly 70,000*l.* and have n yet been formally opened). Mr. A. E. Collings, of Norwic acted as president.

The King's Norton education committee have decided ask the Council to advertise for competitive plans for school of three departments at Selly Oak, and when th plans had been approved to grant permission to forthwit erect the infants' department, which it was stated w urgently needed.

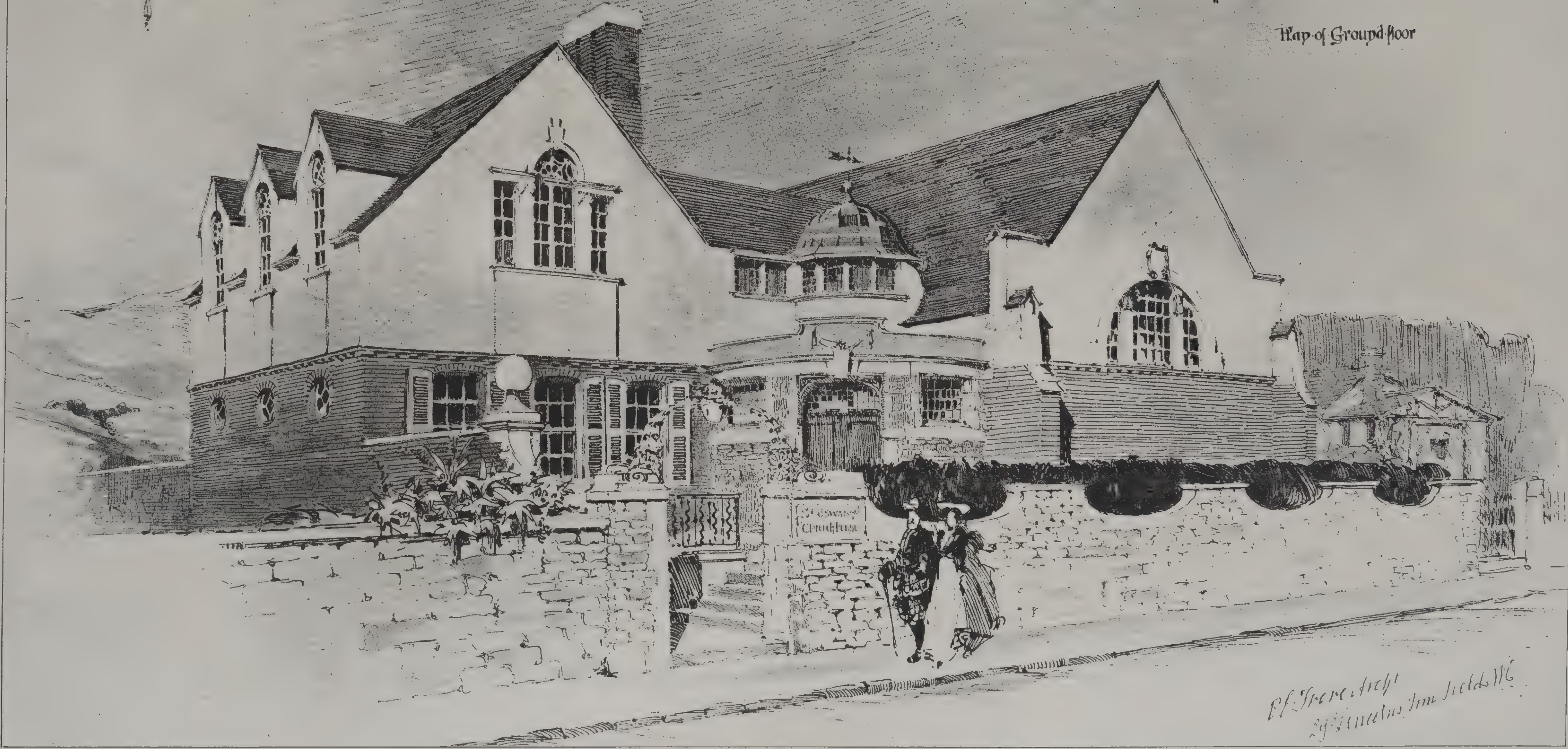
The Architect, Octr 27th 1905.



St Oswald's
Church House
Oswestry



Plan of Ground floor



E. J. Frere Archt
29 Lincolns Inn Fields WC

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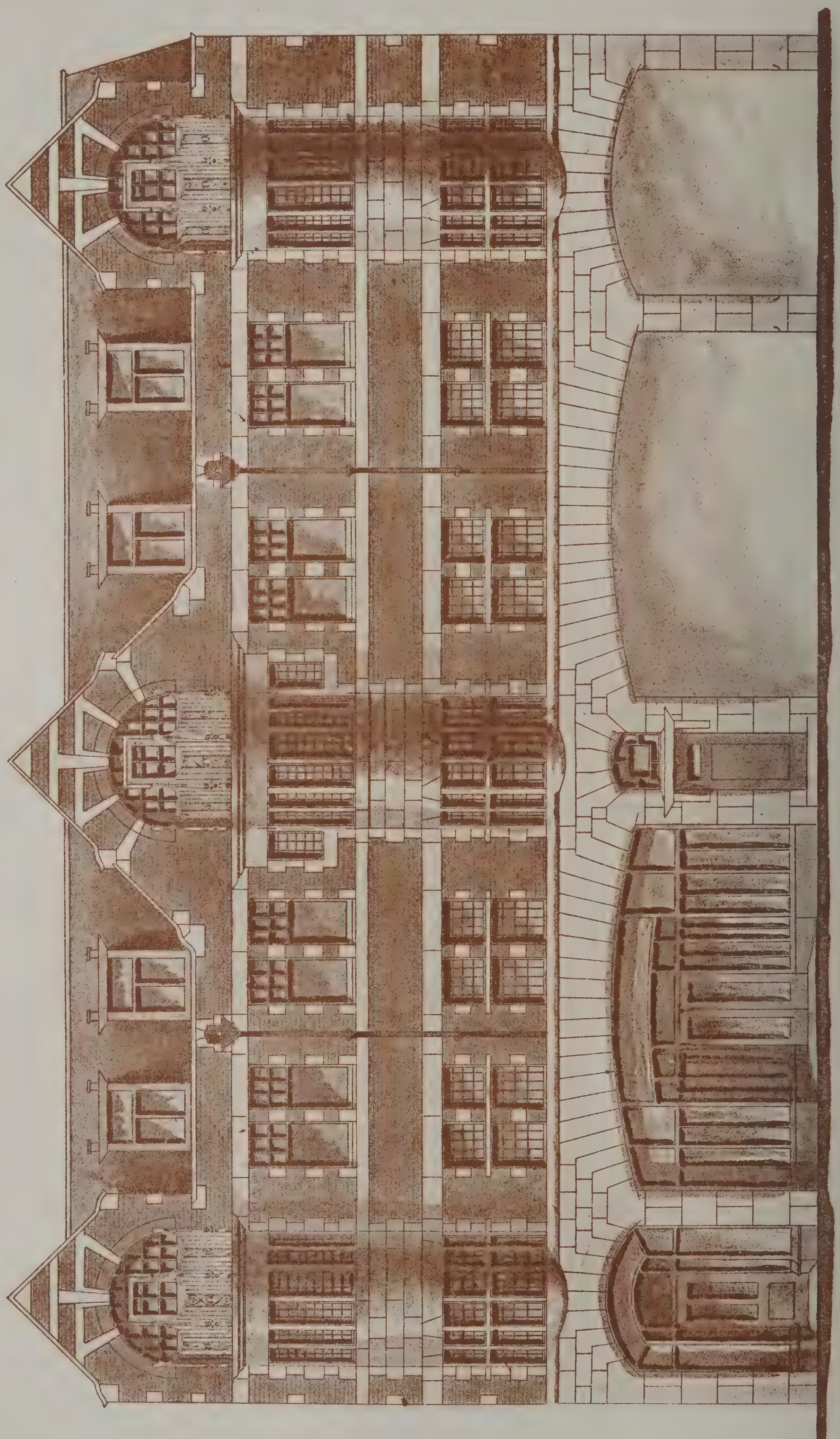

— ELEVATION — TO — ROAD —

PROPOSED SHOPS AND FLATS, BRIGHTON ROAD, CROYDON.

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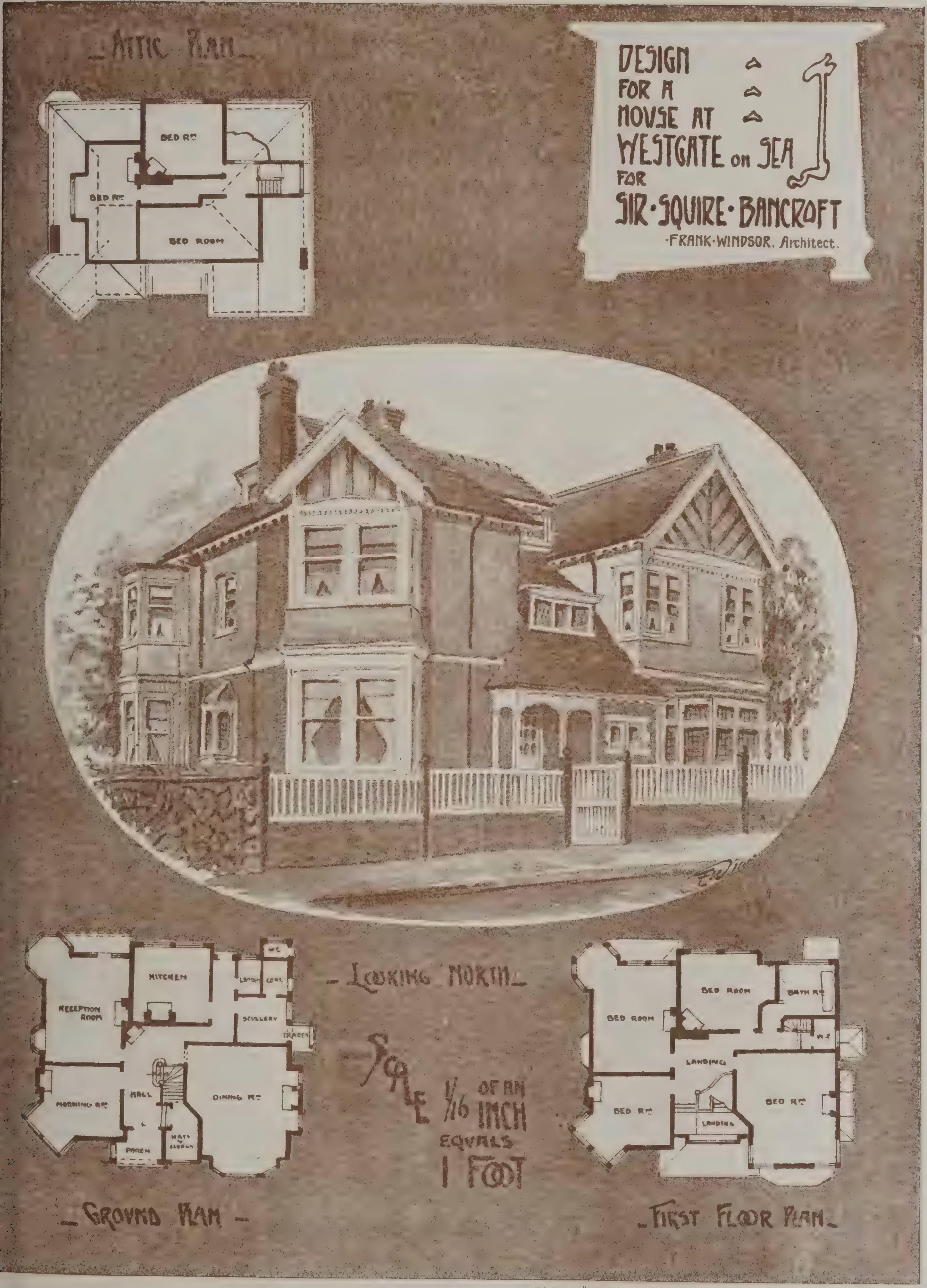

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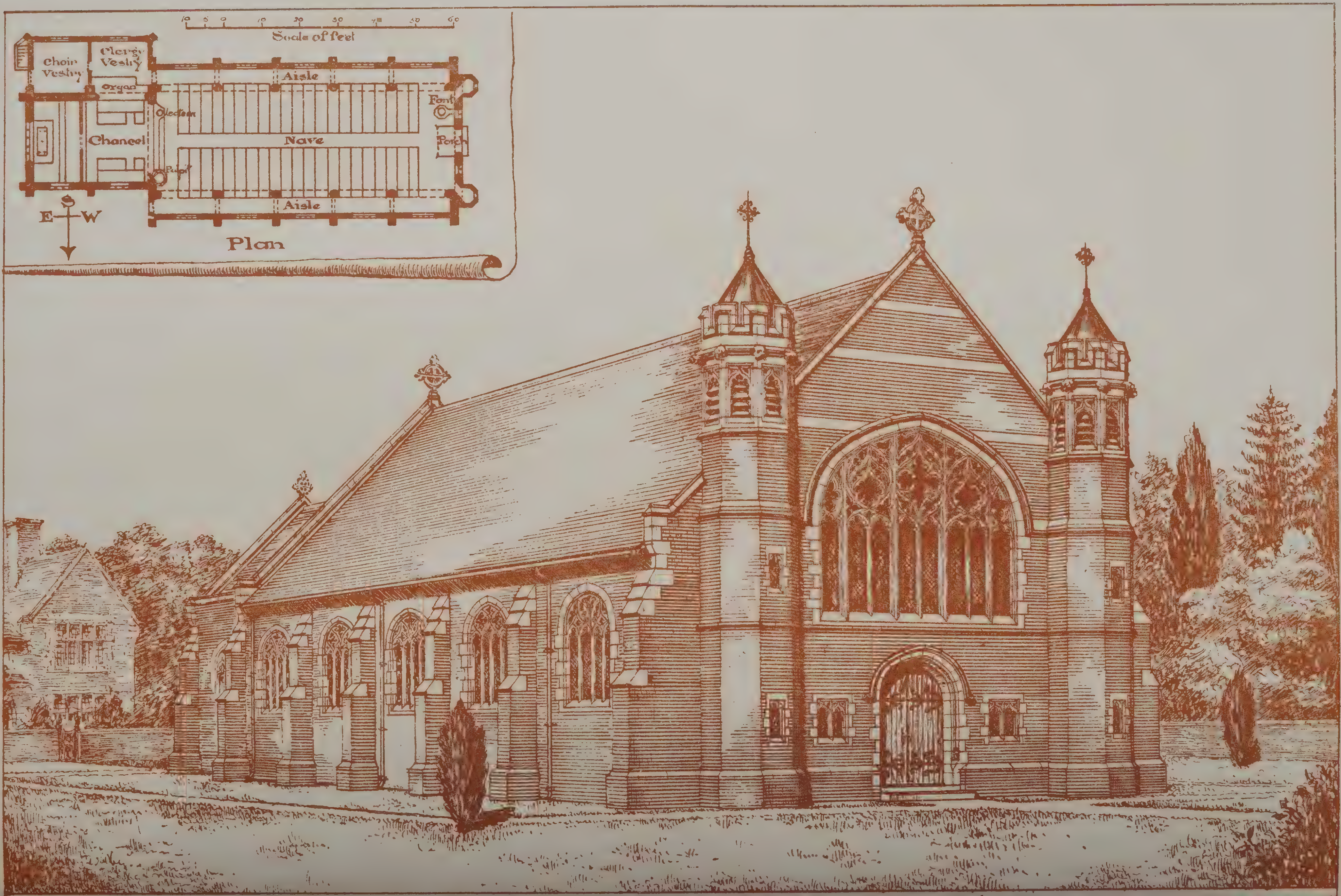
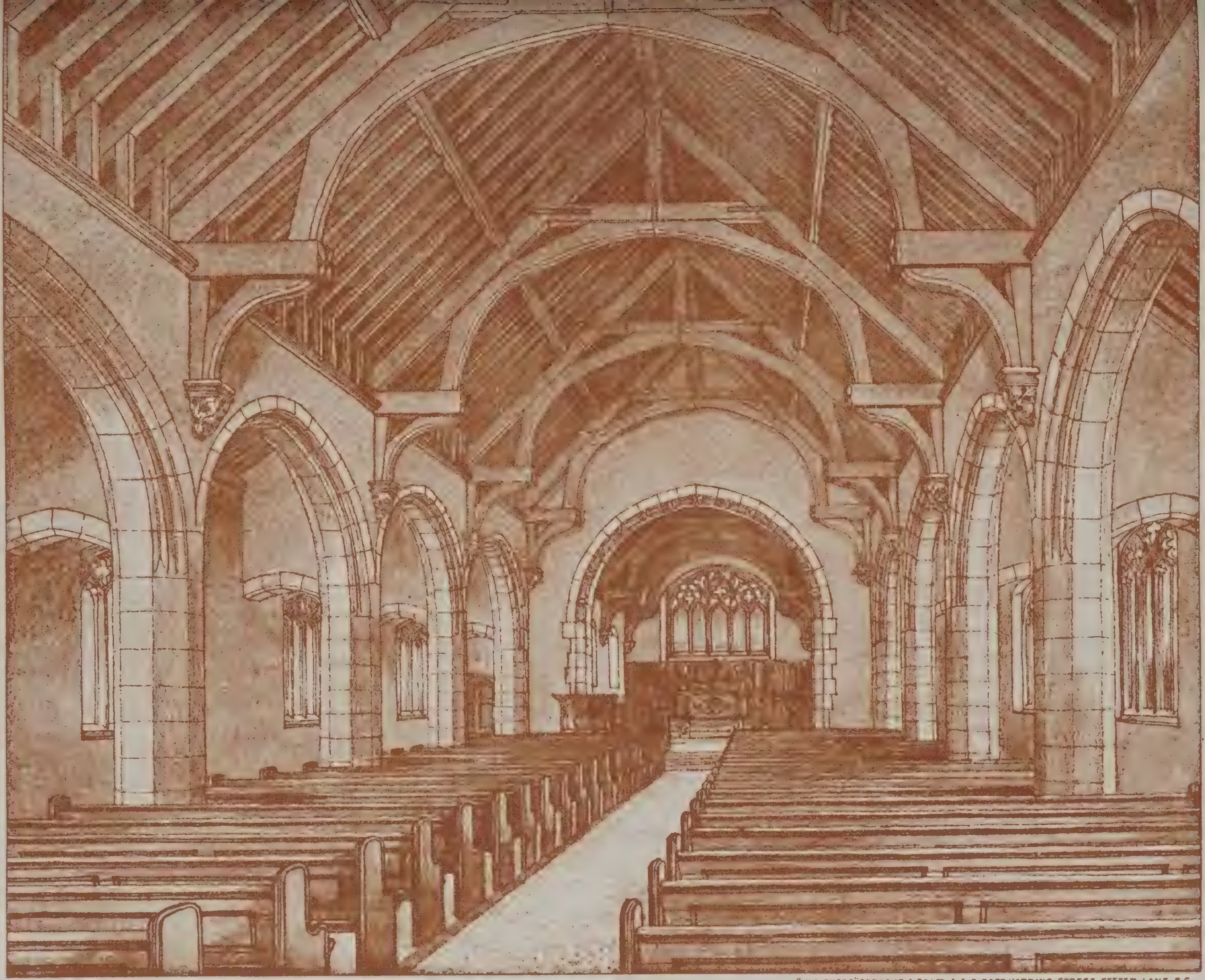


New Church of St. Thomas, East Kirkby, Nottinghamshire. Louis Ambler, F.R.I.B.A. Archt.



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INTERIOR: NEW CHURCH OF ST. THOMAS, EAST KIRKBY, NOTTINGHAMSHIRE.

LOUIS AMBLER F.R.I.B.A., Architect.

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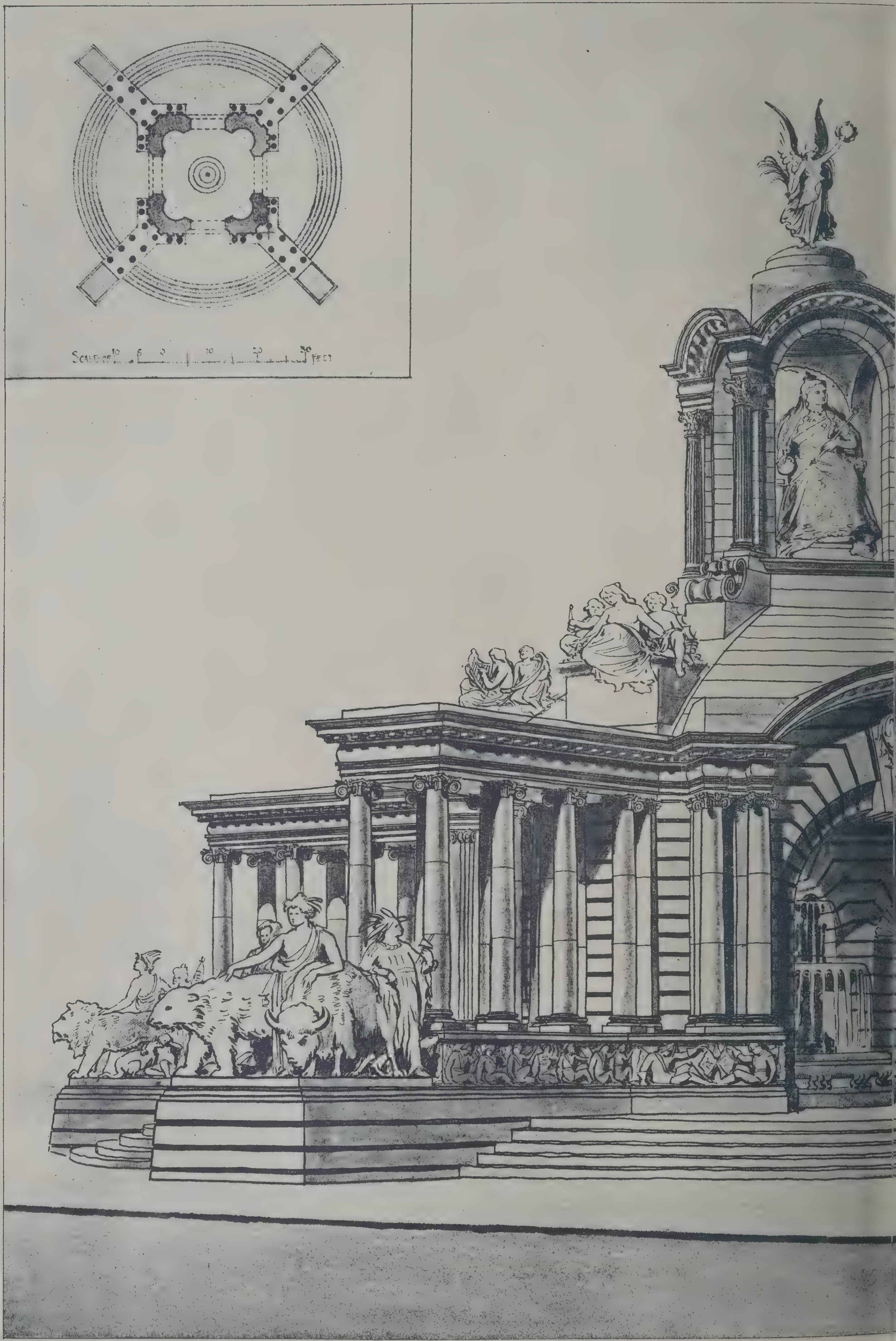
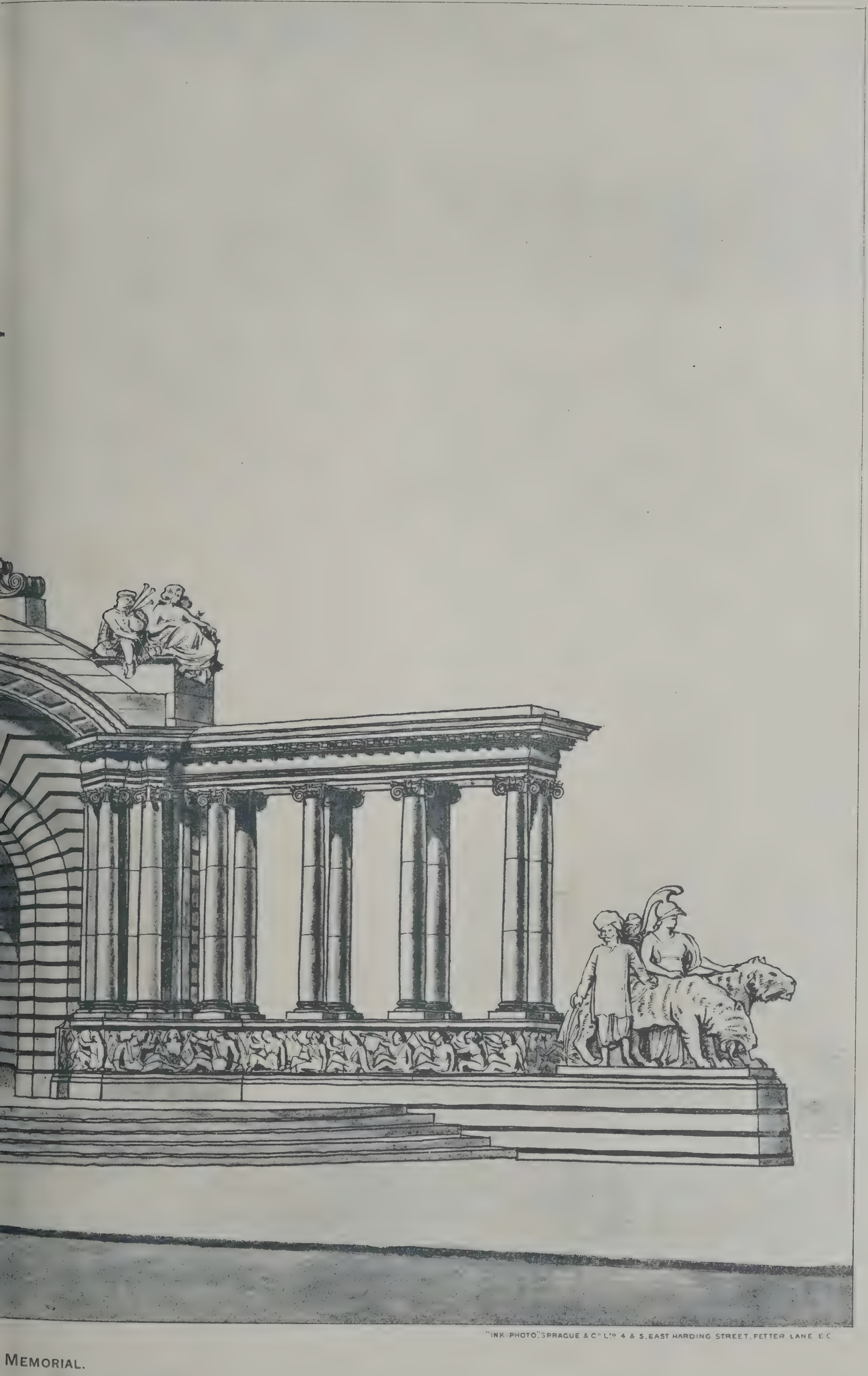


DESIGN FOR

By Messrs. BANISE



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MEMORIAL.

ER & SONS.

The Architect.

THE WEEK.

The tactics of some members of the London County Council with regard to the Westminster Improvement scheme are difficult to understand. The syndicate amended their proposal by agreeing to pay 4 per cent. on the total gross cost after the fifth year of the tenancy. The improvements committee originally stated that they had "considered whether the Council should apply to Parliament for power to acquire the additional property, with a proviso that the Council should be at liberty, within twelve months from the passing of the Act, to transfer its powers to the syndicate. After a careful review of the facts, and having been advised as to the form which the proposed legislation should take, we are of opinion that the acquisition of the land adjoining the site of the Westminster Improvement shall, in accordance with the view which now commends itself to the syndicate, be dealt with in a Bill to be promoted, not by the Council, but by the syndicate." That course was adopted for financial reasons, as the expenditure of over half a million sterling by the Council would be rendered unnecessary. First, there was an amendment brought forward to the effect "that the acceptance of this offer shall not in any way commit the Council to support any application by the syndicate to Parliament for power to acquire the additional property or prohibit the Council opposing any such application if deemed necessary." In other words, that would mean that the syndicate would be in an anomalous position, as they could not tell whether they were to be opposed by the County Council, whose interests they were serving. The syndicate, having such an immense stake in the undertaking, would not be likely to injure themselves and provoke a failure by doing anything which Parliament would be sure to interpret as disadvantageous to the Metropolis. Absurd as was the amendment, there were fifty-three members to vote for it. Another amendment of similar import was, however, carried. It was to the effect that the following words should be added to the recommendation :—"With the proviso that the acceptance of this offer shall not in any way bind the future action of the Council in regard to the land for which it is suggested that the syndicate shall obtain Parliamentary powers." In ordinary arrangements between landlords and tenants it would be considered as indicating continual disputes if a similar proposal were made. We hope the syndicate will carry out their intentions, but no one could blame them if they withdrew their offer.

The election of a successor to the late M. Henner as a member of the Académie des Beaux-Arts on Saturday last was another instance of the freaks of fortune on those occasions. At the conclusion of the first voting the results were :—M. François Flameng, 9; M. Tony Robert-Fleury, 7; M. Albert Besnard, 5; M. Raphaël Collin, 4; M. Toudouze, 4; M. Gabriel Ferrier, 2; M. Lhermitte, 1. Although M. Flameng was first he had not acquired a sufficient majority. Other attempts followed. The ninth demonstrated that the law about the first being last and the last first still operates in mundane affairs. M. Lhermitte instead of one vote attracted nineteen, while M. François Flameng had only sixteen. The new Academician is known by his vigorous paintings of peasant life. *La paye des Moissonneurs* by him has been repeatedly reproduced by photography. His charcoal drawings are among the best examples of that class of work.

The special cottages exhibited at the Garden City do not appear to be able to sustain official scrutiny. Those who from their position have to examine buildings every day discover shortcomings which amateurs have not observed. Mr. R. W. Horn has reported to the city improvement committee of the Glasgow Corporation that the sectional areas of the various materials used in construction are so reduced that in few details would the buildings conform to the Glasgow building by-laws. Mr. Horn has found that the wages paid to those employed on the cottages were less than the average rate, and when it is stated that the 150*l.* covered expenses, there is no allowance for builder's profit, architect or measurer's fees, or for carriage of materials from a distance. The ceilings are kept very low, there are no boundary walls and the drainage is inadequate. In Glasgow a good cottage with equal accommodation would cost 250*l.* Mr. Horn considers the most interesting examples are the two cottages built of hollow concrete blocks. Walls of that kind cost little more than 9-inch brickwork, and in appearance closely resemble freestone. This may be due partly to the nature and colour of the aggregate used, which is obtained in the district. The weathering quality of the blocks has not yet been tested for an appreciable period, but, if carefully made, he sees no reason why they should not almost equal sandstone in that respect.

It was not unusual at one time for an occasional railway contractor to be found who was not competent to read or write. Some of the old school of engineers used to say that the best gangers and overseers were illiterate men. Navvies were consequently promoted, then they became sub-contractors, and finally flourished as contractors. But it seems incredible that in the twentieth century there should be an illiterate contractor engaged in building. One instance came to light in a law court last week. A joiner was erecting eight houses in Stockton. He agreed with another man connected with building to do certain work in each of the houses at the rate of 93*l.* per house. The latter employed somebody to make out the agreement, who as he was not an arithmetician put down the total amount as 664*l.*, or 83*l.* per house. When the work was completed 65*l.* 15*s.* 8*d.* was claimed. But the defendant refused to pay it, as the offer was for 664*l.* The right course open to the plaintiff was not to seek for the recovery of the amount in the County Court, but to bring an action for the rectification of the document. The Judge had, however, only one duty before him, which was to give judgment for the defendant with costs.

The meeting of the Five Academies which was held last week, and over which M. Detaille, the painter, presided, was memorable, for it could be regarded as a centenary. It is usually supposed that it was in 1806 the Collège Mazarin was assigned to the service of the Institut de France. But the Academicians consider it was 1805, for on October 29 of that year an address was presented to Napoleon congratulating him on his victories. Every visitor to Paris knows the Palais de l'Institut, which is opposite the Louvre. On the site formerly stood the buildings notorious as the Grand et Petit Hôtel de Nesle. Many strange traditions are related of the inmates, and especially of Jeanne de Bourgonne. When the buildings were removed it was proposed by Francis I. to erect a college on the site. That design was never realised, but long afterwards Cardinal Mazarin when dying left money for a college to be erected for ecclesiastical students from specified countries. It obtained, in consequence, the name of the College of the Four Nations. The building was erected from the designs of Levau. Mazarin's tomb was placed in the chapel of the college, which is now used for the public meetings, the tomb having been transferred to Versailles. During the Revolutionary period the college was used as a prison, and then as a place of meeting for the Committee of Public Safety. Napoleon, as we have said, decided that the building should be used for the Institut, and Vaudoyer obtained the commission to carry out the changes which were necessary.

AN EGYPTIAN PUZZLE.

ONE hundred years ago there was commotion among British archæologists by the publication of a work by Dr. Edward Daniel Clarke, Fellow of Jesus College, Cambridge, entitled "The Tomb of Alexander: A Dissertation on the Sarcophagus brought from Alexandria, and now in the British Museum." The sarcophagus in question still remains with us, and although it is no longer supposed to have been the receptacle for the body of Alexander, it has a history. During their invasion it was discovered by the French in a mosque in Alexandria. It was venerated as a memorial, though it was used as a reservoir for water. In 1801 the British obtained possession of it, and it was brought to London. It is over 10 feet in length, and the breadth at one end is 5 feet 4 inches. The material of which it is made is extremely hard, but yet the sarcophagus is covered both within and without with hieroglyphics; and some Frenchman has calculated that altogether there are more than 21,700 characters. As a work of art it possesses great interest, but as well as can be made out it was prepared for Hernecht-hebi or Amyrtaeus, who lived a century earlier than Alexander the Great.

Alexander, it is believed, died at Babylon, where his body was embalmed. An expert, probably an architect, was employed for two years in preparing the funeral car which was to convey the body to Egypt. The conqueror was placed in a casket of wrought gold. It was brought to the new capital of Egypt, where a shrine was raised which was one of the wonders of the world. The rites evidently were not those of Greece or Macedon. Dr. Clarke therefore said in his introduction that:—"The superstition respecting Alexander's tomb was not Grecian but Egyptian; that his image was reverenced after his death; and that, in the various homage thus paid to him, he was worshipped as an Egyptian god. The apotheosis typified on the medals of Lysimachus will then appear further confirmed by the collateral evidence of hieroglyphic characters inscribed upon the tomb; nor will the sacred writing of the priests of Egypt appear more peculiarly appropriate than upon a monument which enclosed the body of the son of Ammon."

What became of the body of Alexander cannot now be ascertained. For all we know, it was not allowed to remain in Alexandria. In one of the recent explorations in Asiatic Turkey a sarcophagus was found which was supposed to be that of the son of Philip. Hamlet shrewdly asks, "Why may not the imagination trace the noble dust of Alexander until we find it stopping a beer-barrel?" In those old days it may have been the interest of the courtiers and loyalists to repeat the funeral procession and convey the body to other parts of his empire. There are, it is true, accounts of visits of Roman emperors to the tomb of Alexander. But, as a French writer says:—"We know not what has become of that tomb. It may have been demolished or reduced to ashes by one of those commotions to which the people of the city were liable. Those who had changed a Temple of Bacchus into a church and had destroyed other Classic buildings were not likely to allow a Pagan monument to remain." St. Chrysostom, it seems, declared that in his time the tomb was unknown.

It is well to remember that when Dr. Clarke undertook to prove that the sarcophagus in the British Museum was made to hold Alexander the Great, the inscriptions upon it were without any meaning to him. Although the French had discovered the Rosetta Stone in 1799, it was not until 1818 that Thomas Young was able to give a clue to the characters, and Champollion's key did not appear until 1821. He had consequently no means of discovering the name Hernecht-hebi among the characters. He was compelled to obtain a conclusion in another way. Denon, the Frenchman, was likewise in the dark. But he was not led away by any preconceived notions. He spoke of its incomparable beauty, and came to the conclusion that it was an ancient Egyptian sarcophagus. Perhaps no great importance is to be attached to what Denon asserted on the subject, but we see, at least, that he would not arrive at an opinion unless he had evidence. Dr. Clarke, however, relied on the belief which some of the ignorant Arabs held about its being the tomb of Iscander, the founder of the city. And when they made demonstrations against its removal by the British their cries were taken for additional proofs.

In England the utmost respect used to be given to authority on all archæological affairs. Traditions were supposed to be preferable to the evidence of the senses. Dr. Clarke, as a Cambridge scholar, therefore made a point of studying what was set forth in books by various travellers. It was not possible for people who visited Alexandria from the fifteenth century downwards to have seen any tomb of Alexander the Great, but they heard something about it from their guides, which they took care to record. To simple people it seemed incredible that Alexandria should be without a memorial of Alexander. It is easy to realise that Dr. Clarke himself went to Alexandria prepared to accept the sarcophagus for what he had imagined. An extract from his book will suggest how important archæological investigations were conducted in the beginning of the nineteenth century:—

> We had scarcely reached the house in which we were to reside, when a party of the merchants of the place, who had heard the nature of our errand, came to congratulate us on the capture of Alexandria and to express their anxiety to serve the English. As soon as the room was cleared of other visitants, speaking with great circumspection and in a low voice, they asked if our business in Alexandria related to the antiquities collected by the French. Upon being answered in the affirmative, and in proof of it the copy of the Rosetta Stone being produced, the principal of them said, "Does your Commander-in-Chief know that they have the tomb of Alexander?" We desired them to describe it; upon which they said it was a beautiful green stone taken from the mosque of St. Athanasius, which among the inhabitants had always borne that appellation. Our letters and instructions from Cairo evidently referred to the same monument. "It is the object," they continued, "of our present visit, and we will show you where they have concealed it." They then related the measures used by the French, the extraordinary care they had observed to prevent any intelligence of it, the indignation showed by the Mohammedans at its removal, the veneration in which they held it, and the tradition familiar to all of them respecting its origin. I conversed afterwards with several of the Mohammedans, both Arabs and Turks, on the same subject; not only those who were natives and inhabitants of the city, but also dervises and pilgrims; persons from Constantinople, Smyrna and Aleppo, who had visited or who had resided at Alexandria, and they all agreed in one uniform tradition, namely, its being the tomb of Iscander, the founder of the city of Alexandria. We were then told that it was in the hold of an hospital ship in the inner harbour, and being provided with a boat we there found it, half filled with filth and covered with the rags of the sick people on board.

From the Roman writers we learn that there was a shrine, and it may have been placed in a subterranean chamber. The body was taken from the shrine in order that the Emperor Augustus might reverence it and cast flowers upon it. But whether the shrine meant a receptacle like a sarcophagus is not very clear. Dr. Clarke's theory is that what the Latin writers intended to convey was that the shrine was a sarcophagus, and the very one which is now in Bloomsbury. A tradition which was not expressed until the sixteenth century was to the effect that Alexander was carried to Alexandria in a golden coffin, and that it was in the latter place changed to one in Egyptian marble. It is very doubtful that in the Egyptian city, where the robbery of tombs was an ancient practice, a golden coffin would remain for many years. But all probabilities were set aside as worthless because Dr. Clarke had allowed his imagination to convince him that his country possessed one of the greatest treasures of antiquity.

There can, however, be no doubt that Dr. Clarke was a sincere admirer of everything relating to antiquity. He had no Society or Government at his back, and yet he was able to enrich his University with examples of Greek sculpture and ancient manuscripts which he had collected in the course of his travels. His name should therefore be remembered with reverence by all scholars. But in attempting to create an interest for one most important example of Egyptian art he was really building up a theory with inadequate data. In that way his example is a warning which even in our time, although it is supposed to be specially scientific, has its use.

ART IN CENTRAL ASIA.*

BETWEEN Persia and Afghanistan and Asiatic Russia lies a region which for many centuries was considered by Europeans to be a sort of "No-man's land." The four divisions of it—Khiva, Merv, Bokhara and Samarkand—are now ruled by Khans who are subject to the power of Russia. In modern times they have afforded attractions to adventurous Englishmen. In 1843 Stoddart and Conolly, who had been sent on a mission to Bokhara, were murdered, and Dr. Wolff, the missionary, who in the following year went to inquire about them, was near sharing their fate. The account of Colonel Burnaby's ride to Khiva is well-known, and O'Donovan, the journalist, failed to penetrate further than Merv. When the Persian Empire was at its greatest this northern region, which was known as Turan, and from whence some believed the Persian monarchs came, was not included within the boundaries. There were many terrible wars between the Persians and the inhabitants, who were looked upon as barbarians.

To architectural inquirers the district is not without interest. In Mr. Fergusson's "History" it is said :—

> The progress of the Russians in Northern Asia has recently opened up whole regions that hitherto have been hidden from the light of European research, and the beautiful paintings of Verestchagin have rendered us familiar with the splendour of the capital of Timur the Lame. Unfortunately, however, no photographs have yet been published of Samarkand, and no plans of the buildings of that far-famed city. . . . The great interest, in fact, that attaches to these buildings arises not so much from their own intrinsic value as because they form a connecting link between the style of Persia and that of the Great Mogul dynasty in India, and, when properly investigated, they will serve to explain much that is now obscure in the history of the art in that country. The buildings of these northern capitals will probably also prove interesting as historical indications in another direction, as they retain traces of a modern style of architecture which, notwithstanding the distance in time, seems to be traceable back to the palaces of Nineveh and Persepolis. . . . We probably know enough now of Northern Asia to render it probable that we can hardly expect to find there any buildings of great antiquity, or any of greater magnificence than those of Samarkand; but it seems equally or more clear that, when properly investigated, these buildings will supply many missing links in our history, and explain a great deal that now seems mysterious.

A British subject would not be allowed to enter on the investigations which are necessary for such an nquiry as the history of Turanian architecture. The Russians, however, are without fear of an invasion by Denmark, and in 1896-7 an unofficial expedition was conducted by Lieutenant Olufsen through High Pamir, Wakhan, Garan, Shugnan, Roshan, Darvas and Karaegin. A second expedition, but at the expense of the Danish State and the Carlsburg Fund, followed in 1898-9, when Lieutenant Olufsen was able to visit Pamir, Turkestan, Bokhara and Khiva. Among the photographs taken were several representing old and new architecture, and from them a selection has been made for reproduction.

Lieutenant Olufsen repeats a familiar fact when he says that next to nothing has been done to throw a light on the ancient history of Central Asia. There is neglected evidence throughout the countries. The large mounds if opened would probably, he believes, reveal much information about the time when there were permanent camps of nomads. As early as the seventh century it is mentioned that invaders found in Bokhara "rich Buddhist temples with idols of gold and silver, and carved temple doors adorned with mythical figures." There was a great decline, which continued during many centuries, for although there are no records of invasions, they would be inevitable wherever there was prosperity. Unless history is a fable the wealth of the district in objects of the precious metals must have been almost unparalleled. From time to time different races got the upper hand, and in the fourteenth century Timur (Temir, Timour or Tamerlane) became the sovereign. He had the love of architecture which has been a characteristic of all great monarchs. The country was not in a condition to produce able artists, and, according to Lieutenant Olufsen, he depended on those summoned from Persia, where the Mongolian conqueror was feared :—

> Amir Temir is known by the Mohammedan population throughout Central Asia, and his magnificent mausoleum, Gur Emir, ornamented with glazed tiles, his mosques and sepulchres, Shah Zindeh and Bibi Khanym, the style and decoration of which have served as models for the mosques, madrasas and sepulchres which have been built during subsequent centuries down to the present day, belong to the most beautiful old monuments of Central Asia. Timur had his magnificent buildings erected by Iranian artisans whom he called in from Persia, and the glazed tiles, with which the front and interior of the buildings were ornamented, were mostly made in Kashan in Persia, after which place they were called Kashi.

The wars between Khiva, Merv, Bokhara, Turkestan, Afghanistan and Persia at subsequent times caused the destruction of many magnificent buildings. As a consequence the number of examples of ancient architecture which remain in the vast district is comparatively few. Formerly as now, the ordinary buildings are generally built of sun-dried bricks which are supported by wooden framing. The walls of the inferior houses are made of wet clay mixed with straw, with timber framing. The buildings would not be pleasing to look at if it were not for the use of glazed tiles. The first building shown by Lieutenant Olufsen is the palace of Khudajar Khan at Kokand. It was erected as late as 1870, and is now used as a residence by the Russian Governor. The substructure is of brickwork, and the few windows in the principal façade were broken out by the Russians. There are, however, a number of flat blind arches which faintly recall some of the Gothic arcades of England. The front would appear mean if it were not for the extent in which tiling is employed to form patterns, and which we are told look quite fairy-like in the sunshine. As the tiles are not more than an inch square they may be considered as mosaics. With respect to the patterns, we are told :—

> The patterns on the faïence coating, as well as on the carved woodwork, can as a rule be classified in two types; one consisting of large many-sided figures intertwined in each other and filled out either with small stars or other geometrical figures, or with modified leaves and flowers. The other consists of an intertwining of circles and spirals as the leading motive, the spaces being filled out in a similar manner to the one already described. Added to this is the ornamentation with decorative Arabian and Persian letters, which, for instance, in Samarkand embellish the walls and minarets of the mosques in broad

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* *The Second Danish Pamir Expedition:* Old and New Archiecture in Khiva, Bokhara and Turkestan. By O. Olufsen, chief f the expeditions. (Copenhagen: Gyldendalske Boghandel Nordisk, Forlag. Westminster: Thomas Tofts.)

ribbons running round the buildings. Some of these inscriptions are so big that the sentences from the Koran and other religious books can be seen and read at a considerable distance. Designs of animals on the tiles are only found in one place at Samarkand, in the madrasa Shir-dah (the Lion Gate), built in the year 1648 by Jalang Tash Bahadur, the Vizier of Imam Kuli Khan, on the Rigistan, the market square, which is surrounded by the madrasa Shir-dah to the east, the madrasa Tilla Kari (the gold covered) to the north, and which is built by the same man as the Shir-dah, and the madrasa built by the Prince of Samarkand, Ulug Beg, in the year 1420. In the entrance portal of the Shir-dah there are representations of the Persian Sun and Lion. Khudajar Khan's palace does not belong to either of these two good old types. Its mosaic is a blending of inferior patterns from the decadent period of Central Asia.

Some readers will be surprised to learn that in Khiva there is less destruction of old work than in other parts of Central Asia. When, however, tiles fall off and are broken it is difficult to replace them, for the art of making Kashi tiles seems to be now unknown. Illustrations are given of a small mosque or mausoleum which was erected at Samarkand by Timur. It is a memorial of Shah Zíndéh, or the "Living King," who is believed to be still in a neighbouring well waiting for the time when he has to come forth as the champion of Islam. The lines of decoration are arranged in long panels, and almost every colour is employed. A description is given of one of the heaps of old bricks and other fragments outside Kona Urgendsh, in which beautifully pressed brick, Kashi tiles and ancient glass are found. If properly explored, interesting examples of fictile work could be obtained in abundance.

It was not only beautiful tiles which could be produced by the Asiatics in the fourteenth century. They were no less able as wood-carvers. Although large trees are not to be found the craftsmen were able to turn the fruit trees to account as material. The wood is mainly used for doors and the pillars of verandahs. In Mr. Fergusson's book there is a view of a Khan's palace at Khiva, in which the columns supporting the verandah are seen. They are said to be a modified form of those found in cave temples. Lieutenant Olufsen gives the following account of these columns :—

> The slender pillars are made from apricot wood, which is very hard. The pillars are at their narrowest circumference surrounded by an iron ring which rests on a hewn sandstone socket. For such a high and lofty verandah one could not use pillars of brick, as these in order to be strong enough would have to be disproportionately heavy, whereby they would also shut out light and air. Exactly the same form of pillar is found everywhere in Kharezm more or less elaborately adorned, and if we notice the pillar in Shah Zíndéh's mosque we see that it resembles in a remarkable degree the wooden pillars of Kharezm. With the exception of religious buildings, the carved pillars which support the verandahs and the carved wooden doors are the only adornment in the dwelling-houses of Kharezm, from the palaces of the Khan and the Begs to the houses of ordinary citizens. Beneath these verandahs, which always face the north, the inhabitants spend most of their leisure time in the summer in Kharezm as elsewhere in Central Asia, and it is the favourite place for the men to spend the night.

The pillars in Bokhara and Turkestan are less pleasing. In one example shown the shaft is not ornamented; the capital resembling stalactites is curious, and ends in a pointed top which fits into a cavity in the beam. The ceilings in the better class of houses are elaborately adorned. In Bokhara and Turkestan stucco was used to relieve the surface of palaces and houses of rich merchants. The material is formed into rope patterns, stalactites, stars, scrolls, panels, and the surfaces are painted ; the examples illustrated have Persian delicacy.

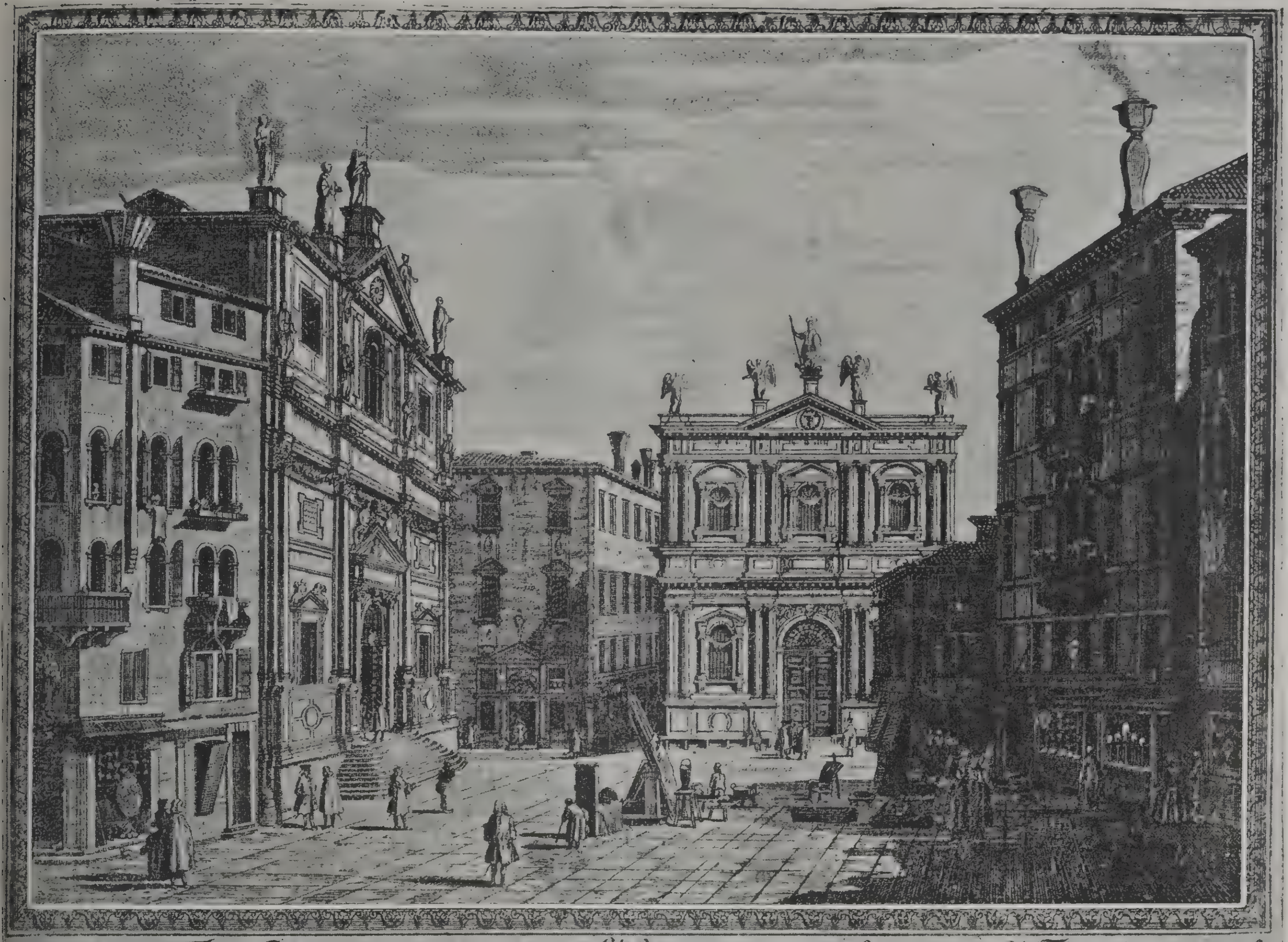
One of the plates in the book is taken from a Jew's house in Bokhara. The penal laws which once operated in Europe still prevail in Central Asia. The Jews cannot ride on horses, only on asses ; they cannot wear gaudy apparel or a turban ; instead of the handsome belts which indicate rich men they can only have a piece of ordinary rope around their khaftan. The interior shown suggests the decoration, though the absence of colour in the plate is a defect. But we learn that "instead of friezes with Arabian letters, Hebrew inscriptions are seen over the recess, and a tablet with Hebrew letters in the centre." A plate from an eighteenth-century mosque indicates the use of stalactite forms, for they were easier to produce than the beautiful tiles. There are, however, good imitations of ancient ornament, but the attempt to employ intertwined polygons, which in the fourteenth century seemed easy, is a failure.

Lieutenant Olufsen's book is a revelation. It is difficult to suppose that at any time the inhabitants of that part of the world which he explored should have cared for art in any form. When they attempted decoration it might be concluded that they would have selected something like the fierce figures which the Lombards and the Normans took pleasure in representing. The laws of Islam were opposed to the reproduction of living things, although they might be only of a fabulous kind like centaurs, dragons and hydras. Imagination could, however, devise symbols which would be almost as expressive. But the hordes of Turkestan who conquered from Smyrna to China appear to have been fascinated and subdued by the delicacy of Persian ornament, and as we see by Lieutenant Olufsen's plates, it was employed as if it were an indispensable condition to make life endurable.

CANALETTO'S VIEWS OF VENICE.—XV.

When Goethe visited Venice in September 1786 he stopped at the hotel "The Queen of England," which was not far from the Piazza San Marco. He lost little time before he attempted to explore the city without the aid of a guide. Goethe was always striving to test his own powers, and with so much self-reliance he considered he could find his way in and out of the labyrinth, and he was not a little proud when he succeeded. He not only was able to test his own ideas about the arrangement of the different parts of the city, but he was able to study the people at his leisure. It is not every traveller who would have so much courage in passing through some of the lonely and narrow lanes, for even Théophile Gautier, who tried to imitate Goethe in dispensing with a guide, confessed that he was sometimes scared when he thought how easily a couple of bravos could drown him in one of the canals, and there were no witnesses who could give information of the deed.

One of the open spaces which Goethe could reach without difficulty was the campo of Santo Salvatore. It was only necessary to follow the narrow and winding but most picturesque Merceria from the Piazza of San Marco in order to attain the Place, and the route from it led to the bridge of the Rialto. The church is represented by Canaletto on the left side of his drawing. It was a parish church, and was served by Canons Regular. The original architect of it was Tullio Lombardi, but it was altered by Scamozzi, and the bizarre façade was the work of Longhena. It is an historical church. Over the door of the sacristy is a sarcophagus which contained the remains of three members of the Cornaro family, who were created cardinals between 1500 and 1544. The Medici family alone would be able to show a similar result of influence. Near the door of the sacristy is also the mausoleum of the Venetian lady, Catterina Cornaro, queen of Cyprus, or, as she is described in the inscription, "Catherinae Corneliae, Cypri, Hierosolymorum, ac Armeniae Reginae." Prince Lusignan became enamoured of her from seeing her portrait. The Venetian Senate through policy treated her as a daughter and princess and gave her a large dowry, and, what was of more importance, their influence. The Prince became king of Cyprus. After his death the queen abdicated, and Venice took



The Place and Church of S.t Servator and School of S.t Theodore.

possession of the island in 1489, as we know from the tragedy of "Othello." Several of the doges were buried in Santo Salvatore. The monument of Venieri, who died in 1556, is by Sansovino. In Canaletto's time there used to be many great pictures in the church, but some of them have been removed to the Academy. The *Annunciation* and *Transfiguration* are by Titian and were painted in his ninetieth year. There were other works by Bellini, Palma, Francesco Vecelli, besides several important works of sculpture. The statues on the exterior were presented by Jacopo Galli, a rich merchant, in 1663.

Canaletto has given somewhat more importance to the Scuola di S. Teodoro. The saint was the original patron of Venice, and it is believed that a church dedicated to him stood on the site of the basilica of St. Mark. In the ninth century some Venetian merchants carried off the remains of the evangelist from Alexandria; they were brought to Venice, a new church was erected to contain them, and St. Mark became the official patron of the republic. The name of St. Theodore is not entirely forgotten in the city, for his figure appears on one of the granite columns of the Piazzetta.

There were several scuolas in Venice; they were erected for the accommodation of the laymen who formed confraternities, and some existed in the city from the thirteenth century. They appear to have been clubs as well as chapels. The Scuola di S. Teodoro was attached to the church of San Salvatore and belongs to the Renaissance period. At one time it contained, like other buildings of its class, several paintings and other works of art. Jacopo Galli was a member, and he commissioned sculpture for it as well as for the church.

DISCOVERIES AT KNOSSOS.

An account is given in the *Times* by Mr. A. J. Evans of his sixth campaign at Knossos. One of the discoveries was a paved Minoan Way, in direct architectural relation to the palace. It had a double line of massive paving slabs, flanked on either side by wings of stamped and indurated materials. Another building larger than any of the palace dependencies was also partially brought to light; only the eastern section was laid bare. According to Mr. Evans, "a paved columnar court forms the approach to five spacious doorways of a large hall, divided by a second row of similar doorways—according to the Minoan system—into two sections. This hall was again flanked on its eastern side by another portico with column bases, so that we have an arrangement very like the Hall of the Double Axes in the domestic quarter of the palace. The southern face of the building was formed by a wall of fine gypsum blocks, like the west palace wall on a smaller scale; but as it ran straight under the olive wood, it could not be followed out. On this side, flanking the columnar court, was a stone staircase of which two flights and remains of a third were preserved. The style and arrangement of the building, as well as the character of the earlier class of relics found within it, showed that in its original plan it belonged to the same period as that to which the later palace of Knossos in its present form was due. Here, too, as there, were abundant signs of later occupation during the more decadent period of Minoan civilisation and of the breaking-up of the seignorial halls into the dwellings of humbler denizens. In one of the chambers wooden columns were used which were partly embedded in a clay or rubble walling. Mr. Evans says that "when, later, the wooden shafts themselves were destroyed by fire they left in the plaster of the wall behind them almost perfect casts of their embedded halves. A careful excavation of the chamber-wall thus brought out sufficient remains of these moulds of columns to illustrate what for the Minoan and 'Mycenæan' architecture is a wholly new type. Columns of this period with the ordinary incave fluting—the prototype of the Doric—were already known, but in this case the fluting was in relief, a decoration obviously taken over from Egyptian columns imitating clustered papyrus stems or sheafs of reeds. The Nile is never very far off from Minoan Crete."

The fire also, we are told, spared plaster "horns of consecration," the unfailing concomitant of Minoan sanctuaries such as those placed beneath the sacred Double Axes in the palace shrine, or depicted on ritual vessels and in the religious designs of funereal chests. In the "shrine of the Double Axes," as in others found elsewhere in Crete, such sacral horns are associated with clay figures of a mother goddess and her votaries. But here in the place of such images moulded by the hands of man were the fetish idols of a much more archaic cult.

By an accident it was discovered that at a corner level there were other chambers. In order to prevent a collapse it became necessary, says Mr. Evans, "to obtain strong and durable supports for the upper structures; the minimum of incongruity seemed to be secured by restoring the columns themselves in their original form—but in stone with a plaster facing in place of wood. For this work, which involved most difficult structural problems and a large use of iron girders in place of the original architraves and cross-beams, I was happy in securing the services of Mr. C. C. T. Doll, architectural student of the British School at Athens, who has carried out his task with great success. The basis of this reconstruction must in any case be held to be secure. The new columns with their capitals reproduce both in shape and in colouring examples seen on some recently discovered frescoes from a hall of the West Palace wing. The actual size of the architraves and beams could be ascertained from some large charred sections actually preserved. The stones, moreover, of the upper flight of stairs and of their balustrades had been carefully marked and numbered, so that they could be reset in their original positions." Similar reconstitution had to be carried out elsewhere, with the result that the most unimaginative must be impressed, for "to a height of over 25 feet there rise before us the grand staircase and columnar hall of approach practically unchanged since they were traversed 3½ millenniums back by kings and queens of Mino's stock on their way to the more private quarters of the royal household."

SHEFFIELD SOCIETY OF ARCHITECTS.

A PAPER on "English Renaissance" was read by Mr. W. J. Hale at the last meeting of the Sheffield Society. He referred to the series of lectures delivered last year on the development of Gothic architecture in England, in which it was shown that the Norman-French influence introduced at the time of the Norman Conquest soon disappeared, and English work developed characteristics of its own. In English architecture of the sixteenth century foreign influence asserted its sway, and the period dealt with by the lecturer—1550 to 1600—showed in its buildings the struggle between the older Gothic forms and the newer classical ones imported from abroad. At first many buildings presented combinations of the styles, and even at the end of the sixteenth century the Gothic spirit had not been completely vanquished. Speaking broadly, the artistic struggle was between the horizontal and the vertical lines, between symmetry and balance on the one hand and irregularity and picturesqueness on the other. One of the features of the time was the practical cessation of church building, due no doubt to the suppression of the monasteries and the change in the religious thought of the people. Another feature was the increase of house-building, especially that of large houses for the nobility and leaders of the land, due to the greater desire for display and in a measure to the rise of a different class to positions of wealth and influence. The old simple arrangement of a large common hall, with a portion cut off by screens to serve as a passage to the kitchen quarters, was found inconvenient, and as the plan was developed to meet new needs it in its turn affected the general elevations of the building. Prominent features, such as doorways, fireplaces, &c., were first affected by the new ideas, whilst the general composition preserved the old spirit. On the other hand, the mullioned window held its own, and, indeed, grew both in width and height, so as to become one of the striking marks of the period. The Gothic string-course was expanded into a small cornice, and jamb mouldings previously worked into the wall stones were succeeded by projecting architraves. Generally speaking, a greater air of finish and comfort, the latter perhaps only superficial, was imparted to the buildings, and served in a measure to distinguish them from those of the earlier Gothic period.

A WESTMINSTER CAMPO SANTO.

IN a letter to the *Times* Mr. Bodley suggests that the space in Dean's Yard, now surrounded by iron railings, might be treated in some such manner as the Campo Santo at Pisa. "Externally there could be four walls, which might be made handsome and dignified, and within them a wide, cloister-like building, the inner walls having many glazed windows. The four long blank walls would afford much space for the monuments of many coming years. There could be four arches into the cloister with bronze gates and a cross walk. Its height need not be at all great, nor incommode the houses in Dean's Yard. The memorial services would be held in the Abbey, and the ancient cloister would afford a beautiful path to the final resting-place. It might all be made very beautiful. It would be intimately connected with the Abbey. I know that there is the difficulty of the ground now being used an an occasional extra playground for the boys of Westminster school. It is but an inconvenient place for such a purpose—exposed to the view of all passers-by as it is. I should hope that this difficulty could be got over and that a great public want could be thus so suitably met."

THE BRITISH SCHOOL AT ATHENS.

THE annual meeting of the British School at Athens was held last week at Burlington House. The Bishop of Bristol presided.

The report referred to the good work done by the Archæological Congress which met at Athens in April, in fostering international co-operation in teaching and research, and also to the visit of the Queen in May, when Her Majesty was received by the director of the school, Mr. R. C. Bosanquet, and the acting librarian, Mr. H. J. W. Tillyard, and inspected the new Penrose Memorial Library. The fourth campaign of excavation at Palaikastro, in Crete, had supplemented and completed the results of previous years in a most satisfactory way, and as for the present further excavation there would add little to our knowledge it had been decided that, as at Troy and Phylakopi, part of the ground should be spared until researches elsewhere had increased comprehension of the evidence. During the year works of excavation had been carried on in Lakonia. Various pieces of good fortune had befallen the school, so that, despite the heavy expenses of completing the Penrose Library, the revenue account showed a considerable surplus, and although the school ended the year 112*l.* poorer in cash, it was now possessed of a library which had cost over 1,400*l.* to build and equip.

The Chairman said there was no nation more entitled to take part in ancient Greek investigations than the English, for the whole of our earliest literature was written in Greek characters—altered just so much as to enable them to be cut on wood that easily splintered. Our fashion of using Greek characters had persisted until recent times, "the" and "that" being written "ye" and "yt," though probably few knew that "ye" was one-half of the Thracian theta. Then, again, there was a singular resemblance between the decoration of the ancient Greek tombstones and of the Pictish tombstones found in Forfarshire or Perthshire.

Mr. Bosanquet described the work of excavation that had been effected in Crete. At Palaikastro the centre of their work was the temple area, and in this region there proved to be unexpected depth of soil and very comple stratification, all periods from the classical Greek back to the early Minoan being represented. Of the temple itself little remained, but its terra-cotta decorations had been recovered, including a frieze of chariots and metopes adorned with the head of Medusa. Many offerings had been found. The Bronze Age buildings underlying the temple were especially rich in objects of the fine "Palace style." In the district Mr. Dawkins discovered the remains of an l-shaped house, within which were twenty stone axes and other primitive relics, which gave a definite idea, for the first time in the Ægean, of a neolithic homestead. The exploration of Lakonia had been begun, the first site examined being that of Thalamai, famous in antiquity for its oracular shrine of the goddess Ino. At Geronthræ Mr. Hasluck and Mr. Wace did some experimental work on the ancient acropolis.

There, as at Thalamai, the Hellenic remains have been used as a quarry by Frankish and later builders, and there is nothing to justify a large excavation. At Angelona practically the whole equipment of a local heroön was brought to light. Some very interesting work was done by Mr. Tillyard. He had studied the whole subject of Greek boundaries and frontiers with a view to ascertaining the principles of delimitation and defence in ancient times, and had written a valuable dissertation on the inscriptions relating to boundaries.

Dr. Leaf was re-elected treasurer, Mr. Baker-Penoyre secretary, and Mr. Reginald Blomfield, Mr. R. J. G. Mayor, Mr. J. L. Myres and Professor Reid were re-elected members of the committee.

A RECOGNITION.

THE Royal University of Ireland has conferred the degree of LL.D., *Honoris Causa*, upon Mr. Robert Cochrane, president of the Institution of Civil Engineers of Ireland, and honorary general secretary of the Royal Society of Antiquaries of Ireland, in recognition of his professional eminence and of his services in promoting archæological and antiquarian research in Ireland. Mr. Cochrane, in addition to holding the two offices just mentioned, is a Fellow of the Royal Institute of British Architects and a member of various learned societies of Great Britain and the Continent, to the "Proceedings" of which he has been a contributor. A year ago he was invested by the King at Buckingham Palace with the Companionship of the Imperial Service Order in recognition of his public work, and he has been the recipient of other marks of appreciation. In the study and investigation of Irish antiquities he has done much excellent work. He has been for many years honorary general secretary of the Royal Society of Antiquarians of Ireland, a Fellow of the Society of Antiquaries, London, and of the Société Royale des Antiquaires du Nord, and for several years a member of the Council of the Royal Irish Academy. He is inspector of ancient and national monuments for Ireland, under the Ancient Monuments (Ireland) Protection Acts, in succession to the late Sir Thomas Deane, and has done much good work in this capacity. He is also honorary editor of the quarterly journal of the Royal Society of Antiquaries and the author of many valuable works on antiquarian and other subjects. Among these may be mentioned articles on "The Abbey of Graig-na-Managh," "The Ecclesiastical Antiquities of the Parish of Howth," "On Newly-discovered Ogam Stones in Ireland," "The Abbey of Ross-Errilly," "The Round Tower of Kilmacduagh," and on "The Find of Gold Ornaments at Limavady in 1896." In connection with the latter he was specially engaged by the Treasury to work up evidence for the trial, which ended in the recovery of these ornaments for Ireland. Mr. Cochrane was elected to a second term of office as president of the Institution of Civil Engineers of Ireland and has contributed important papers to the volumes of Proceedings of that Institution.

VENICE AND JOHN RUSKIN.

IN support of the project for the erection of a monument to John Ruskin in Venice the following letter has been addressed to the Italian Minister of Public Instruction by Count Zorzi:—

Excellency,—Veteran among those Venetians who have fought the good fight for the preservation of artistic Venice, honoured publicly by the friendship of John Ruskin, I venture respectfully to express my thanks to you in anticipation for your good offices in regard to the tribute of honour that I feel sure you would wish paid to the memory of the eminent author, of whom twenty-eight years ago I wrote:—"English by birth, Venetian by heart, Ruskin has true right of Venetian citizenship, for but few of my compatriots have loved this our fatherland as he has loved it, and after having visited and loved it as a youth, studied, wrote of it, and illustrated it over a course of thirty years."

In memory of John Ruskin, I would once again bring forward the proposal made by me at the time of his lamented death, that to the illustrious Englishman is due the honour of a monument in the Venetian Walhalla of art.

When, urged by outraged feelings and the appeals of my brother artists, I wrote a generation ago and testified publicly against the numerous acts of artistic vandalism, official and private, perpetrated daily at Venice, Ruskin, towards the close of 1876, invited me to visit him, and, assuring me of his warm approval, begged to be associated with me in the struggle. Later, when the English art-loving public, in consequence of our appeals that a system be adopted of rational restoration, not wholesale rebuilding and refacements of buildings, particularly in the case of St. Mark's, banded themselves together into an international crusade in support of these then new ideas, we accepted as an honour the help of Ruskin and gratefully referred the proposals of the London committee to the historic academy of St. Luke, of Rome, which welcomed us cordially among its members; and the fact that this Society in the Art Congress just held was worthily represented is evidence that, after many years, our action has not been forgotten.

Within the limits of our forces, and without exaggeration, we have continued to watch over the preservation of the Venetian artistic patrimony. I am proud to be able to recall how Ruskin prophesied to me, "Your protests will not have been in vain," and it is with unconcealed joy, Your Excellency, that, after many years of official absence, I find adopted in the restoration of old monuments now proceeding, and in some of the newer buildings being erected in Venice, those views which, when first put forward, were scouted as madness; to find further that in all which relates to the safeguard and conservation of our historic treasures, even the public and those most bitterly opposed to us at the outset have, in the recent Art Congress, united with the artistic world to celebrate the cause of art and to honour the name of one of the most illustrious champions of art and of Venice.—Your Excellency's most devoted servant,

A. P. ZORZI.

ROYAL HIBERNIAN ACADEMY OF ARTS.

AT the annual general assembly held on St. Luke's Day, the elections of officers and honorary professors for the year 1905-6 took place, and which have since received the approval of their Excellencies the Lords Justices. The following is a list of the elected officers:—President, Sir Thomas Drew, LL.D.; secretary, S. Catterson Smith; treasurer, P. Vincent Duffy; keeper and librarian, P. Vincent Duffy; visitors, Living Model School, Charles Russell, H. C. Tisdall, J. M. Kavanagh and H. Allan; visitor Painting School, S. Catterson Smith; professor of painting, Nathaniel Hone; sculpture, O. Sheppard; architecture, Sir Thomas Drew, LL.D.; anatomy, Sir Thornley Stoker, M.D.; literature, Edward Dowden, LL.D.; antiquities, George Coffey; chemistry, Sir Charles A. Cameron, C.B.; trustees, Sir Thomas Drew, LL.D., S. Catterson Smith and W. M. Mitchell; auditors, Charles Russell and James Brenan. This is the fifth time Sir T. Drew has been elected president.

GLASGOW INSTITUTE OF ARCHITECTS.

THE usual quarterly meeting of this Institute has been held. There were present Messrs. Keppie (president), Gourlay, Bell, J. B. Thomson, Skirving, Bromhead, Monro, Balfour, Sandilands and C. J. MacLean (secretary). The President referred to the death of two of the members, viz. Messrs. William Kerr and Robert Turnbull, and it was agreed to record expressions of deep regret. Messrs. James H. Craigie and D. Bennet Dobson were elected members. The Secretary reported regarding the finding of the committee on the Royal Infirmary reconstruction scheme, as to a resolution passed by the Master Masons' Association protesting against the proposal to use terracotta blocks in reconstructing the Royal Infirmary instead of stone, that the committee were not prepared to approach the Royal Infirmary Board by deputation or otherwise regarding the material for the walls of the proposed buildings, but it was considered advisable, from the point of view of the amenity of the cathedral, that any frontage to Cathedral Square should be faced with stone. The result of a conference on "sub-contracting" was reported to the meeting, viz. that the names of sub-contractors should be disclosed in the schedules of tender when one contractor is asked to offer for all departments of the work, and where he does not carry on these wholly by workmen in his own employment. Messrs. James Lindsay and A. N. Paterson were appointed representatives to Haldane's Trust for five years, and Messrs. James Lindsay and Thomas Baird, jun., were appointed adjudicators for the prize given by the Institute to the Technical College.

NOTES AND COMMENTS.

The sub-committees of the Kent education committee have presented their reports. The works committee state that the lowest tender for the teachers' house at the Eynesford, Crockenhill, school was 700*l.*, the committee's estimate being 450*l.*, and for the school and playground 3,529*l.* 10*s.*, the committee's estimate being 2,925*l.* A new specification was prepared which was not considered to be satisfactory. Agreements were arranged for the following schools with various architects, viz.:—Boughton Monchelsea, Messrs. Ruck & Smith; Cuxton, Mr. G. E. Bond; Dartford, Mr. W. Harston; Eynesford Crockenhill, Mr. W. Harston; Hawkinge, Mr. A. Bromley; Hoo St. Werburg, Mr. G. E. Bond; Hythe, Mr. A. Bromley; Luddenham, Messrs. E. Pover & Son; Rainham, Mr. G. E. Bond; St. Mary Cray, Mr. St. Pierre Harris; Tonbridge, Mr. J. W. Little; Tonbridge (mixed), Mr. C. H. Strange. It was proposed to allow the quantity surveyor for examination of the bills of quantities the customary fee of 10 per cent. of the charge for "lithography," the latter term to include any similar process adopted for the reproduction of the bills. The sub-committee considered whether the work of settling up for variations should be done by the architect, as stated in the agreement, or by the quantity surveyor. They recommend that the quantity surveyor should do this work subject to a fee not exceeding 2 per cent. for additions and 1 per cent. for omissions, together with travelling expenses.

Rudolf Virchow was for so long a period one of the idols of Berlin, it is rather surprising that nearly three years were required to make arrangements about the erection of his statue. All Europe was indebted to him for his services to pathology. But Berlin probably thought more of him as a member of the Municipal Council and as one of the doughtiest of Bismarck's opponents in Parliament. He was the pioneer of sanitation in Berlin, and if authorities visit the city in order to study the various arrangements for dealing with sewage and other difficulties, it is because Virchow had established the principles on which they were planned. At length it has been decided that his statue is to stand in the Karlsplatze, which is not far from Virchow's laboratory. The sum to be expended will be 80,000 marks, of which 44,000 will be contributed by the city of Berlin, the remainder being obtained by subscriptions. The competition is to be an open one, and those taking part in it are to be free from official restrictions. Prizes of 3,000, 2,000 and 1,000 marks will be offered. The jury will consist of municipal representatives of Berlin, members of the memorial committee, the sculptors Manzel and Tuaillon, and the architect Messel.

Building contractors would not like to be informed by owners that it would be a convenience if they suspended operations for an indefinite time. There would, of course, be claims for damages, which no Court could refuse. It should be recognised that a similar law applies to the workmen employed. A case was heard before the stipendiary magistrate in Manchester on Tuesday, which reveals a belief that men must be more accommodating than employers. It was considered to have so much importance that the Master Plasterers' Association and the Operatives' Association took it up. Three plasterers' labourers were engaged on a new fire station. They were told to "stand down" for a day or two because there was a shortness of lime; they were not paid on that day, nor on the next day, and on the third they received their wages without any allowance for the time they had been kept waiting. By the accepted rules of the trade, when a workman receives notice to leave the employer has to pay the wages due to him, or to pay for the time the man is kept waiting. For the defence it was contended that the rule only applied when the men were discharged, and that in this case there was no discharge. The magistrate asked when the contract with the men came to an end, and the employer admitted he considered it was on the day when the men were told to "stand down." The magistrate held that the men should have been paid as soon as their contract was ended, and as that was not done they were entitled to compensation for the time they were kept waiting for their money. It is to be hoped that this will be taken as a test case so that similar disputes will not again arise.

For more than fifty years Rudolf Lehmann has been residing in England, and few strangers have met with so much welcome from Englishmen. A German by birth, and the son of a miniature-painter, he preferred the pursuit of art to more profitable occupations. He studied in Munich, Rome and Paris. In the latter city he was a pupil of Ingres, and of his own brother, Henry Lehmann. He became acquainted with some members of the family of Louis Philippe, and he received commissions for paintings for public buildings. But the Revolution of 1848 prevented him from realising them. His *Blessing of the Pontine Marshes by Sixtus V.* had been purchased for the Lille Gallery. In this country he rarely attempted paintings in which many figures were required. He perceived that there was greater demand for portraits. He was fortunate in finding generous patronage, and a large number of notabilities were depicted by him. He died on Friday last at his residence in Bournemeade, Bushey, in his eighty-sixth year, to the great regret of his numerous friends.

The sessional meetings of the Royal Institute of British Architects are to begin on Monday next, when the President will deliver the opening address. At the subsequent meetings papers will be read on "American Methods of Erecting Buildings," by Mr. R. A. Denell; "Stained Glass," by Mr. A. Gascoyne and Mr. A. J. Dix; "Metalwork," by Messrs. J. M. Swan, R.A., M. Fordham and W. Gilbert; "Furniture," by Mr. E. Guy Dawber; "Flats," by Mr. Sydney Perks; "Wood-Carving," by Mr. W. Aumonier and Mr. A. W. Martyn; "Plasterwork," by Messrs. G. P. Bankart and L. A. W. Turner; and "London Traffic Commission Report," by Mr. Paul Waterhouse.

The report of Session 1904-5 of the Birmingham Architectural Association concludes with the hope that the future may bring an increase of interest in the objects of the Association and a development of its influence. At present, it says, "we are almost unknown as a public body, and are most sadly behindhand as compared with kindred institutions—a fact which is evidenced by the Birmingham Architectural Association being perhaps the only local Society of any standing of which there appears no mention in the 'Red Book.' Surely our profession is a sufficiently important one to make it incumbent on each of us to relax no effort to maintain its status with the general public."

ILLUSTRATIONS.

CATHEDRAL SERIES.—WAKEFIELD: VIEW FROM SOUTH-EAST CORNER OF SOUTH AISLE, LOOKING NORTH-WEST.

ANNEXE, SCANDINAVIAN SAILORS' HOME, LONDON.

PASSMORE EDWARDS SAILORS' PALACE, LONDON, E.

DESIGN FOR RESIDENCE.

RESIDENCE, GAYTON, CHESHIRE.

ELLESBOROUGH PARISH HALL, BUTLER'S CROSS, BUCKS.

WESTFIELD, FARNBOROUGH, KENT.

ESTIMATES OF PROBABLE COST.*

By Forrest H. Lightbody, F.R.S.E., Ordained Surveyor.

APART from the feeling that I have not had sufficient time to devote to the preparing of the few words I am going to address to you to-night, I have the greatest possible pleasure in being here. I can assure you that it is a source of great gratification to every member of the senior body that your Society has given evidence of two things, first, that a students' society is a suitable means of assisting in the education of young men entering our profession, and of providing a healthy social intercourse among them; and, second, that you have among your members young men who have the capacity and the energy to carry on the work of the Society in such a way as to lead us to believe that it will have a long, prosperous and useful career.

The formation of your Society was a corollary to the enlargement of the scope of the examinations which accompanied the formation of the senior Society. There can be no doubt that additional work—additional studies if you like—will have to be done by candidates in the future, more than was necessary in the past, and my belief is that no better machine than your Society could have been contrived to collect the feelings of the students as to their educational wants, and to give expression to these feelings in a suitable and proper way. I am sure that the Society of Ordained Surveyors will welcome any suggestions which your experience may prompt as to the means of overcoming difficulties which you may find in carrying on your studies.

I am afraid that many of you look with considerable apprehension on the prospect of undergoing examination in the extra subjects in the final examination, more particularly, I believe, in the subject "Strength of Materials." Now, I should like to give you this encouragement. Only one examination in the subject has been held, at which one candidate presented himself. He passed with over 90 per cent. of the full marks. There have been complaints that the arrangement of classes in the Heriot-Watt College is not suitable, and representations have been made to the Principal and to Professor Stanfield. I am not aware what changes, if any, have been made in the classes for the ensuing session, but we shall soon learn this. I think that you may rely upon our doing what we can to give you facilities for getting up the subjects which have been added to the final examination. I will say more, I think you are entitled to ask us to do so.

There is possibly a tendency among all of us to allow our minds to dwell upon the immediate obstacles in our way, rather than upon the advantages which will accrue to us when we have surmounted these obstacles. Some have more energy to surmount obstacles than others, some have more ability, but the feeling of advantage which we experience when we have surmounted them is shared by all. Might I ask you to keep this aspect before you during your studies? Might I ask you to consider what were the advantages of the apprentice twenty or twenty-five years ago, or even less, as compared with yours? The apprentice left school with an education limited to the three R's, and often very poor at that. He entered an office and worked out his own salvation. The available classes at the Watt Institute in the subjects which might have been of service to him were utterly useless, even if there had been anyone to direct him to them. He had no course of study before him to guide him to classes which, though yet far from perfect, are ideal in comparison with those I speak of. He had no special object in attending classes. He had a vague idea that perhaps ten years after his apprenticeship was served—if he ever did serve an apprenticeship—he had to go through some form to be "ordained," and he knew that that form would probably be gone through about the same time by some clerk of works or foreman who could persuade two ordained surveyors to certify him as qualified to be "ordained." He had, in short, no stimulus to improve either his general education or to make himself better equipped for the work at which he was to earn his living. I hope that we have for ever changed all that, and that those entering our profession now will start equipped with a good general education, that they will realise that they have a direct incentive to work, that they will have some confidence that they are working on right lines, and that they are working for a qualification in a profession upon which they may look with, at least, some little feeling of pride. I am still young enough to hope that I may see the day when many of you will be prosperous practising surveyors, and I hope—I believe—that you will then look back upon the year 1899 as the beginning of a new and a better era.

Now let us come to probable costs. I wish, in the first place, to emphasise this. I am not going to try to give you what I may best describe as "tips." There is no short-hand way of doing anything thoroughly and well. If there were, work and experience would go for nothing. I am keeping in mind that I am speaking to a students' Society, and my aim is not to give you figures which you might use in cases where the figures very probably did not apply, but to recommend to you certain methods of putting on record the result of your own experience. And this after all is the only basis upon which an estimate of probable cost can be made. I do not mean to say that you may not take advantage of experience derived from buildings which have not, so to speak, passed through your hands. But you must in such cases be sure that in general matters you have all the information which you would have had if they had passed through your hands. You will see the bearing of this later on. In brief, my object is to advise you how to keep records so that you may most usefully take advantage of your own experience.

A rough estimate of the probable cost is often wanted before any plans have been prepared. A more accurate estimate is almost invariably wanted before the employer approves of the architect's plans, and frequently, as in certain kinds of valuations, it is found necessary to make an estimate of the probable cost of work already done.

I propose to say very little about the first of these—estimating the cost before plans are prepared. Estimates of cost in such cases are very rough, or, as we sometimes hear them described with unconscious humour, "very approximate." There are certain classes of public buildings, such as schools, churches and hospitals, where the cost may be roughly anticipated at so much per pupil, per sitting, or per bed. Such estimates must of course be set aside at once in favour of estimates by other methods from the drawings when these are prepared.

A fair allowance for a school up to the requirements of the Education Department is 10*l.* per pupil, and the following are the allowances made by the Department, exclusive of site, legal expenses, extra rooms and residences:—

School buildings 10*l.* per pupil, with additional allowances for

Central hall or corridor . . .	15*s.* per square foot
Washing or laundry-room . .	1*l.* ,, ,,
Manual instruction-room . . .	10*s.* to 15*s.* ,,
Science-room, laboratory or drawing classroom	1*l.* ,, ,,
Teachers' room	15*s.* ,, ,,
Teachers' house	500*l.* to 750*l.*
Caretaker's house	not more than 400*l.*

This sum of 10*l.* per pupil includes furnishings, and it is difficult to get below it. The more elaborate town schools cost more.

The amount spent on ornament in churches is so variable that the cost per sitting fluctuates more than in the case of a school, and I am afraid to venture upon a figure.

The cost of hospitals per bed varies enormously. Taking nine cases at random out of a large number, I find that the total cost per bed complete, including administrative buildings and everything, varies from 125*l.* to 637*l.* 5*s.*, and that the cost of the ward blocks themselves varies from 47*l.* 10*s.* to 231*l.* 12*s.* 6*d.* per bed.

The usual methods of estimating the probable cost from drawings are:—

1. By ascertaining the cube contents or area, depending upon the class of the building, and pricing at a rate which your experience tells you has applied in other cases.
2. By taking out roughly the quantities of the works, pricing and extending.

When practicable, both methods should be adopted as a check.

Cubing.

Great caution must be exercised in adopting this method. Let me give you an instance from your school days of the danger. You will all have had this question or one very similar put to you. If you have a field 200 feet long and 20 feet wide enclosed with a fence, how can you with the least expense in fencing double the area of the field? The answer is, of course, by making the field 40 feet wide. That is, you have doubled the area of the field and you have only added one-eleventh to the length of fencing. You will at once see the parallel. Had the figures applied to a building, you would practically have doubled the cube contents, and would have added only one-eleventh to the cost of the walling—a very important item in the cost of the building. The error in adopting the same cube rate for two buildings of the above-mentioned dimensions is greater, the less work you have inside your outer walls—or, in other words, the error is greater, the greater the cost of the outer walls in proportion to the whole cost. When you have buildings such as workshops, sheds, or, generally speaking, buildings where there are large open spaces within the outer walls, the cube rate depends very largely upon the proportions of the building. Similarly in buildings where the cost of the flooring and roofing bears a large proportion to the whole cost, an alteration in the height of the building has an important effect upon the cube rate. Consequently, in such cases, a rate derived from a building of certain proportions may be quite inapplicable to a building of other proportions, although the general character and construction of the two buildings may be exactly alike.

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* A paper read at the opening meeting of the Ordained Surveyors Students' Society in Edinburgh on the 16th ult. [Mr. A. Cameron, president, in the chair.

Here is an instance of the effect of the alteration of the height of a one-storey building upon the cube rate. I had occasion to make a valuation of a building, the purchase price of which was to be fixed by arbitration, and where the basis of valuation was cost not market value. I took out the quantities roughly, but wished to be able to support my valuation by a reference to a similar building, the cost of which was definitely known. In the record of cubes which I had, there was one of a building of similar construction and proportions, except that the height was 6 feet greater than the height of the building I was valuing. I took out accurately the quantities of walling, &c., required to reduce the height of the building by 6 feet, and priced them at schedule rates. That is to say, I ascertained quite definitely the cost of a building of proportions exactly similar to those of the building I was valuing, with this result. The building, as scheduled, and as built, was 28 feet 6 inches high from the bottom of the founds to halfway up the roof, and the cube rate was 2.65*d.* The cube rate, after taking off the 6 feet, was 3.05*d.*, a difference of two-fifths of a penny, or about 15 per cent., a very considerable difference. Luckily in buildings of this class it is comparatively easy to adopt the method of taking out quantities.

On the other hand, the more work there is inside the outer walls of a building and between the ground and the roof, the more certainly can you apply a cube rate derived from a building of similar character, no matter what are the relative proportions of the buildings. Shall we therefore call it one of the beneficent compensations of nature that the greater the difficulty in applying cube rates, the easier it is to take out quantities, and that the greater the difficulty in taking out quantities, the easier it is to apply cube rates?

I cannot impress upon you too strongly the danger of applying cube rates to large open buildings, such as I have referred to, and seeing that it is such an easy matter to get out the quantities approximately, you should never hesitate which method to adopt.

But there are occasions when cubing forms a reasonably safe method of estimating probable costs, and I propose here to give certain general rules to be adopted so as to enable this method of valuation to be applied with as much certainty as is possible.

1. In the first place you must adopt a uniform method of arriving at the cube contents. The most common method is to measure from the bottom of the foundations, and to take the cubic contents above that exactly as they are contained beneath the roof. This is often described as from the bottom of the founds to half-way up the roof. But in the case of many roofs—a roof sloping up to a platform for instance—such a description of the method is inaccurate. Some people measure from half-way between the bottom of the founds and the floor, and in a certain class of arbitrations, the practice in England is to measure from the ground line upwards. But whichever method you adopt, you must only apply rates derived from cubes taken in one way to cubes taken in a similar way.

Here are one or two instances of the difference in cube rates resulting from the adoption of different methods of ascertaining the cube contents:—

Difference in Height, using Different Methods.		Rate, measuring from Bottom of Founds.	Rate, measuring from Ground Level.
Ft.	In.	d.	d.
4	2	1.65	2
4	2	1.63	2
2	5	1.77	2
2	0	1.81	2
3	4	1.50	1.75
2	2	2.23	2.5
3	6	1.48	1.75
3	2	1.90	2.25

These differences are sufficient to show you the error that would arise by adopting dissimilar methods of cubing.

2. The cube rates must include for the same items of work. It would be manifestly wrong to apply a rate which included grates, electric lighting and painting in a case where these were allowed for separately, and here again you ought to adopt similar methods in all cases.

You ought, in the first place, to take out the cubic contents of every building you schedule and record them in a book, giving a general description of the class of building and sufficient dimensions to enable you to trace the general proportions and sizes of the buildings. This book should be of foolscap size, with a page for each building. The cost of the main trades—mason, joiner, smith, slater, plaster and plumber works, the works usually scheduled by the surveyor—should be entered separately, and the cube rates for the total of these trades entered. If the grates, heating, and what I shall allude to as "supplementary" works are included in the schedules, these should be deducted before making the calculations showing the operations. By "supplementary works" I mean painterwork, grates, heating, gasfittings, electric lighting, blinds, laying out grounds and generally works not usually dealt with by the surveyor—works over and above what may be considered structural works. If you have dealt with any of these supplementary works you will be able to record the costs in a different column.

A further useful separation is the cost of boundary and parapet walls and railings and street pavement. These have not any relation to the cube contents, and should be kept out of the cube rate and estimated by approximate measurements.

Ordinary drains may be included in the cube rate, but any extraordinary length of tail drain or other unusual cost should be kept separate. These remarks apply also to any unusual cost of water supply.

The cost of any very expensive and elaborate finishings should be noted for reference. They need not necessarily be excluded in the calculation of the cost of structural works.

3. So far as possible it is advisable to keep separate different parts of one contract—in some cases even different parts of one building. For example, in measuring a school from the plans, separate headings—not necessarily separate sections—should be made for the school, boundary walls, playgrounds, offices and playsheds, and records of these should be separately kept. In the case of a church the spire above a certain level should be kept separate, and, if possible, a hall attached to a church. These last distinctions are sometimes easily enough made, because they have often to be separately scheduled, so that the church people may know the separate costs and be able to determine whether their funds will enable them to build the whole or part.

In large villas and mansion houses, attached outbuildings are slumped with the main buildings, and although the actual cost of these per cube foot may vary considerably, generally speaking the average cube rate may be relied on. In estimating small detached outbuildings, however, care must be exercised. The cube rate of these is often very much higher than that of the main building.

4. In the case of dwelling-houses, a note should be kept showing how the roof-space is finished. This can be embodied in the general description of the building.

A difference in the method of finishing the roof-space may make a material difference in the cube rate. Take, for example, the case of a villa with two storeys and rafters carrying a platform roof. The cube contents may be identical whether the roof-space is finished and utilised for attics or left unfinished, but the cost, of course, will not be identical. In such a case, suppose you had a record of a rate of a building with the roof-space unfinished, and you wished to use it to estimate the cost of a building with attics, you would apply the rate recorded, and ascertain by pproximate measurements the cost of the staircase and the nishings of the attics, and add this to the amount brought ut by the cube rate. Speaking generally, it is obvious that here you have a large unfinished roof-space the cube rate ill be thereby kept down.

Underground heating chambers and wine cellars will ot cube at the rate for the main buildings, and the cost of ese should be ascertained by rough measurements.

5. The date at which the work was estimated should be oted, and it will sometimes save you hunting up old papers find what the schedule prices were which brought out a ertain cube rate, if in your record book you keep a note of ome of the principal prices, such as the prices for concrete, ubble, cube stone, brick, joists, flooring, windows, doors, lates, plaster, lead, &c. By comparing these with current ates you can form an idea of how much should be added or deducted from the cube rate you have recorded.

A record should also be kept of cases where the site is ifficult of access, involving extra expense of cartage. In ome remote places the extra expense in this head is normous.

6. Your record book should contain a description of the lass of building and the materials of which it is constructed.

I dare say that some of you will be saying to yourselves at all this is very troublesome and elaborate. It really is ot. If it is gone about systematically it is very easily done, nd you must remember that even in a large business the umber of buildings to be recorded from time to time is not ery formidable.

Estimating the Cost by the Area.

This method is useful in buildings where the cost of the orizontal items, such as floors and roofs, is large in proportion to the cost of the vertical items, such as walls, &c. is chiefly used for large one-storey buildings without uch internal work. The remarks which I have made pon the dangers of applying a rate per cubic foot apply ith equal force to the danger of applying a rate per supercial yard, which is the unit usually adopted, and the same re should be exercised in keeping records.

You will readily see that the rate per unit of area is ore reliable in some cases than the rate per unit of connts. For example, in a shed or workshop 200 feet square, ith cheap brick walls around, and the roof supported by on columns—no dividing walls—the chief cost of conruction is in the floor and the roof, and a little variation in eight affects the cost very little. It is for this reason that rate per superficial yard is in this case more reliable than rate per cube foot. Any difference in height will, of urse, increase the cube contents, and the cost does not crease in proportion to the cubic contents.

You will remember that I gave you an instance where, reducing the height of a building by 6 feet, the rate per bic foot was increased from 2.65*d.* to 3.05*d.* In the same se the rate per superficial yard was reduced from 53*s.* 10*d.* 48*s.* 2*d.*, a difference of about 10 per cent., whereas the bic rate varied 15 per cent., and this was in a building here the cost of the walls was considerable. In many ses the difference between the percentages of variation ould be much greater.

Rough Measurements.

This method of estimating the probable cost, besides ing useful in the cases already referred to, is practically e only method available for estimating the probable cost alterations.

The exact degree of detail into which it is advisable to in making your measurements depends upon the nature the building, but there should in an office be certain neral lines to follow in most cases; and, further, it is eful to keep records of the cost of certain items of work mped together, so that the slump rate can be adopted stead of detailed measurements. For example, take the se of an iron roof principal. It is not as a rule necessary making an estimate of probable cost to price this in detail, her by weight or measurement. You should keep a cord of the actual costs of such principals per foot of ar span.

Or, take the case of an inside door. It should not be cessary to make your deductions from the brick and aster and measure the standards, doors, stops, facings and hitraves separately. It is useful to have a record of the tra cost over brick and plaster of an ordinary door, say, a tenement, and enter your item in making your rough asurements as "extra for so many doors"—one item.

Or in the case of plumbers' fittings, it is useful to ascern the entire cost of a w.c. This can be done readily (provided the headings in your schedule are so arranged) by ascertaining the cost of the lot, including ½-inch supply to cistern, the closet, seat, cistern and flushing pipe, lead and iron pipes, &c., and finding the rate for one. Basins, baths, sinks, tubs and cisterns can be treated in the same way.

The total cost of inside wooden stairs should also be ascertained and recorded, so as to avoid the troublesome work of making rough measurements.

But possibly I can give you a better idea of the kind of rough measuring to be adopted by going through the items which might arise in a particular building. (The lecturer here went over in detail from notes the various items of work on the lines he would recommend them to adopt.)

General Remarks upon Actual Cube Rates.

From what I have said, you will readily recognise that no record of a rate per cube foot or per superficial yard is of any real value to you unless you are in possession of information regarding the building of which it is a record. To illustrate this, let me give you one or two cases of records of actual costs per cube foot for structural works, exclusive of what I have termed "supplementary works," and regardless of the date of erection.

The rates for over a score of churches varied from 3⅔*d.* to 6⅘*d.* per foot. The rates for a large number of schools ranged from 3*d.* to 6*d.* per foot. Tenements built under contract from about 4½*d.* to 6¾*d.* per foot; smaller villas, 4*d.* to 7¾*d.* per foot; large villas, 6½*d.* to 10*d.* per foot. In a row of continuous villas the rate per foot for intermediate houses was 6.9*d.*, and for the corner houses 8.3*d.* Golf club houses, cricket pavilions, &c., from 3½*d.* to 5⅔*d.* per foot; stables, a selection of eleven, from 3½*d.* to 10*d.* per foot; farm steadings from 3¼*d.* to 5*d.*; factories, printing works, &c., from 2⅓*d.* to 4*d.* and upwards, in one special case as high as 9¼*d.* An addition to a house of a square stone tower, built from the founds upwards, cost 1*s.* 4⅔*d.* per foot. Building a spire to a church 121 feet high, starting 28 feet from the ground, cost 2*s.* 2¾*d.* per cube foot. The price per lineal foot was 28*l.* 8*s.* 3*d.*

It may be interesting to cite here some instances of the cube rates of certain public buildings taken from J. T. Rea's book "How to Estimate." They are described as actual costs, but I cannot tell what they include:—

British Museum (1843), 1*s.* 6*d.*; Holborn Viaduct Hotel, 1*s.* 4*d.*; Hotel Victoria, London, 1*s.* 6*d.*; Houses of Parliament (1843), 2*s.* 6*d.*; Manchester Assize Courts, 9½*d.*; new Post Office, St. Martin's-le-Grand, 8½*d.*; City offices, Gracechurch Street, London, 1*s.* 1*d.*; Southsea drill hall, 3¼*d.*; nine Nonconformist chapels range from 3⅛*d.* to 7⅔*d.* per cube foot and from 2*l.* 10*s.* 6*d.* to 9*l.* 12*s.* 9*d.* per sitting; Brixton theatre, London, cost 15*l.* per seat; Hanley theatre 7*l.* per seat; Birmingham General Hospital 632*l.* per bed; Liverpool Royal Infirmary 622*l.* per bed; St. Thomas's Hospital, London, 650*l.* per bed; ditto, one pavilion, 250*l.* per bed; Brook Hospital, London, 470*l.* per bed; West London workhouse, 48*l.* per inmate; Isleworth workhouse, 180*l.* per bed; Plumstead Board school, 27*l.* per scholar; Netley Hospital, including administrative buildings, 305*l.* per bed.

Let me give you one or two instances of rates per superficial yard:—

	Rate per Superficial Yard.	Rate per Cube Foot.
Large sheds (various)	34*s.* to 38*s.* 6*d.*	2⅓*d.* to 2¾*d.*
Engine sheds . .	43*s.* 6*d.* to 52*s.* 9*d.*	2¾*d.* to 3½*d.*
Workshops, &c. .	43*s.* 2*d.* to 55*s.* 7*d.*	2¾*d.* to 4*d.*
Coal sheds . .	28*s.* 10*d.* to 41*s.* 8*d.*	2¾*d.* to 4½*d.*

Now I have wearied you enough, and I am going to conclude by referring in a word or two to the attitude of the general public with regard to estimates of probable cost.

Generally speaking the attitude of the public is that they expect too much, and in some cases they expect the impossible. Possibly we ourselves are to some extent to blame for the confusion which exists in their minds regarding the difference between estimates of probable cost and actual tenders or offers, by the fact that we very frequently use the word estimate as meaning a tender or offer. If we could all agree to use these terms more carefully it might help to enlighten the public. Let us consider what happens before an actual tender is sent in. A detailed schedule of measurements of all the work necessary to complete the building is prepared from the plans. These schedules, which may take weeks, even months to prepare, are lithographed and sent out to contractors, who consider the special circumstances, inquire about prices of material, railway rates, cartages and possibly wages. They then attach rates to the quantities in the schedules and extend them, arriving at a definite total at which they are prepared to undertake to do the work. The amounts of these tenders, based all upon the same definite quantities and descriptions, and after careful consideration and inquiry, in all cases vary considerably, in some cases enormously. I have known the highest offer to be 50 per cent. above the lowest.

Now let us consider what is asked of a surveyor when he is requested to make an estimate of probable cost. He has no detailed schedule of measurements to assist him. He has no time to prepare one even if his employer was prepared to go to such an expense. He has to adopt shorthand methods such as we have been dealing with to-night. He may take out the cube contents of the proposed buildings and apply a price per cube foot derived from his experience of other buildings. He may in some cases make a very rough series of measurements, so rough that in one day he must do what may take him a month or even months to do carefully when he is preparing the accurate schedules from which the contractors tender. He cannot go into the prices in the same exhaustive way that contractors do when making up their tenders, and yet it is expected of him that he will foretell within a very narrow limit what the lowest tenders will be, a limit much less than the difference between the lowest and the highest actual tenders. To my mind the wonder is not that these estimates of probable cost are sometimes wide of the mark, but that they are usually so near the mark as they are. That can only be achieved by a long experience of actual costs of buildings and by keeping careful records of these costs on the lines I have indicated to you. In most cases the preparation of an estimate of probable cost involves the forming of an opinion, and I would warn you against forming that opinion too low. If any pressure is ever brought to bear upon you, it is usually in that direction. By keeping that in mind you will find that the actual tenders approximate more closely to your probable cost, and the vexed question of extras will not have to be faced at the very beginning of a contract.

If there are no changes in the plans or otherwise, there is no reason—in Edinburgh, at least, where the plan measurements are made with great care and thoroughness—why there should be any serious extras over the tenders. There may be little things here and there, as the work goes on, involving slight additional cost, which it may be thought desirable to do. It is possible, even with the greatest care, that some little things may not have been foreseen in the preparation of the schedules, and a small sum should be added to the tenders to cover these. I have known many buildings completed with little or no extra. In some cases the actual cost has turned out less. Perhaps I ought to except from this general statement the case of alterations on old buildings, where it is often impossible to know what work will be required until certain operations have been carried out.

The life of both architects and surveyors would be a little more tolerable if the public realised the difference between estimates of probable cost and actual tenders, and if they realised the difficulties in the way of making estimates of probable cost with the means at our disposal. I use the word "means" in a comprehensive sense.

"EVILS OF RESTORATION."

A PAPER was read at an "At home" in the Ipswich Art Gallery by H.H. Prince Frederick Duleep Singh on "The Evils of Restorations (so-called)." In the course of his paper he said the "restart" now looked about to see what the early restorers had left undone, and to that he turned his iconoclastic attention. Norwich Cathedral was referred to as a case in point. It occurred to someone that the interior looked old, grey and venerable—"dirty" was the word used, he believed—so at great cost the walls and pillars were "unflaked," and the nave now looked as new as would that Suffolk cathedral which he supposed was shortly to be erected. When one talks of restoration (the Prince continued), one usually thinks of churches, so I will take the ordinary village church as an example. Surely it is vastly more interesting to see one which shows the mark of all the centuries that have passed over it than one which is made to end abruptly with (say) 1520, and to begin again with 1860. I knew one somewhere in West Suffolk, a perfect example of an old country church. It had got into disrepair because there were two churches in the parish, while only one was needed. This other one had been restored in the usual unsympathetic manner—varnished pitch-pine seats vulgar encaustic tiles, iron altar-rails painted blue and chocolate, new stone mullions and tracery in fancy style "cathedral" glass in the windows, and outside with purple slate roof. By contrast with this "restored" building a word-picture was given of the old church. It was roofed with a splendid thatch of reed, wattled in a curious cross cross way; the pulpit was a three-decker of Jacobean carved oak; the seats represented all periods, from the time that seats were first used in churches, amongst them being the "dear old square pews;" there was a west gallery for the village choir and minstrels; the hassocks, quite a feature of the church, were made of "tussocks" (hence perhaps the name) of ling from a neighbouring heath; the poor-box was hewn out of a solid block of oak. Unfortunately this church had been "restored," with the result that although there was nothing much to offend the eye of the uniformist, the completed history of six or seven hundred years of church life, and the real human element which signs of wear and tear left behind, had been for ever obliterated.

ULSTER SOCIETY OF ARCHITECTS.

A GENERAL meeting of the members, associates and students of this Society was held last week in the Society's rooms, Lombard Street. The president (Mr. W. J. Gilliland) occupied the chair, and amongst those present were:—Messrs. J. J. M'Donnell, J.P., R. M. Young, J.P., F. H. Tulloch, W. J. Fennell, N. Fitzsimons, W. B. Blackwood, H. Lamont, W. Maxwell, S. M'Avoy, Thomas Houston and W. B. Fennell, hon. sec.

Mr. J. C. C. Gamble was admitted as an associate, and Messrs. N. F. Webb, Alex. Small, T. H. M'Connell and A. W. M'Kean were elected students of the Society.

The consideration of the Architects' Registration Bill was first taken up, and after a full discussion of its several clauses, the following resolution was, on the motion of Mr. W. J. Fennell, seconded by Mr. F. H. Tulloch, unanimously passed:—"That the Architects' Enrolment Bill, as proposed by the registration committee of the R.I.B.A., is a very desirable measure, tending to the protection of the public, the improvement of the status of architects and the elevation of architectural education generally, and that this Society urge the Council of the R.I.B.A. to obtain, at as early a date as possible, the passing of the Bill."

A resolution approving of the scale of charges fixed by the Belfast Quantity Surveyors' Society was passed on the motion of Mr. J. J. M'Donnell, seconded by Mr. R. M. Young.

Mr. N. Fitzsimons reported on the progress made by the joint committee on art, which consists of representatives of the Ulster Society of Architects, the Belfast Art Society and the Ulster Arts Club; and a very full and satisfactory report was presented by the hon. secretary (Mr. W. B. Fennell) on the students' classes, which have again commenced under the auspices of the Society.

The consideration of the Council's report on "Conditions of Contract" was, after some discussion, deferred until a future meeting.

THE APPRENTICESHIP SYSTEM.

AT the Bradford County Court on the 27th ult., before his Honour Judge Bompas, K.C., James Edgar Adamson, a minor, suing through his father, Mr. James J. Adamson, architect, of Hull, brought an action, says the *Yorkshire Daily Observer*, against Mr. Horace Edward Priestley, architect, of Bradford, to recover damages for breach of an indenture of apprenticeship. Defendant counterclaimed for 50*l.*

Dr. Woodhouse, for plaintiff, explained that Mr. Adamson, senior, though himself an architect, thought it better that his son should be indentured with a stranger. In response to an advertisement he entered into negotiations with the defendant, who, in consideration of a premium of 52*l.*—half to be paid down and half at a subsequent date—agreed to take the younger Adamson as an articled pupil. Indentures were signed for four years from September 1, 1903. After a few months' experience the plaintiff found that he was not making satisfactory progress in the defendant's office, where there was very little to do, and he was nothing more than an office-boy. In consequence of representations made to his father, the latter, when the second half of the premium became due, paid only half of it, and correspondence ensued in which the defendant met Mr. Adamson's complaints by countercharges against the plaintiff. Eventually the plaintiff went home to consult his father, and the defendant wrote saying that he would not receive him back. Dr. Woodhouse read numerous letters from the defendant with regard to the plaintiff's alleged misconduct. In one the defendant wrote :—" He has grossly insulted me, having little respect for my position. I cannot allow insubordination in my office. . . . Besides being impertinent, he is disobedient and of a mischievous disposition, scribbling on and defacing my property in a shameful manner and generally wasting both my time and his own."

Mr. James J. Adamson, the plaintiff's father, gave evidence in support of Dr. Woodhouse's statement. He said his son, who was eighteen years of age, had always borne an excellent character. Witness had tried to get his son into other architects' offices, but had failed owing to the absence of a testimonial from his last employer.

The plaintiff said that when he went to Mr. Priestley's office there was one assistant and himself. The assistant subsequently left, and Mr. Priestley took another pupil. There was never much to do, and during the last year business was very slack. Witness had to do tracing and office boy's work—copying and posting letters, copying insurance policies and collecting premiums. He had very little instruction in the preparing of plans, and was not taught to get out specifications or quantities, though he several times asked for instruction in these departments. In November 1904, when he went in for his preliminary examination, he got a certificate of good conduct from Mr. Priestley. Mr. Priestley never complained that he had destroyed instruments. On one occasion he complained of his defacing a drawing-board by drawing a man's head on it.

Cross-examined, the plaintiff said it was not true that he drew objectionable sketches in the exercise books of Mr. Priestley's pupils.

William Benjamin Smith said the plaintiff had lived with him eight or nine weeks, and was always well conducted.

Mr. J. H. Heap, solicitor, of Bradford, said he was leader of the young men's class at Eastbrook Hall, of which the plaintiff was a member. He considered him respectful and well-spoken and of good character.

The defendant in the course of his evidence said he resided and carried on business at 17 Bertram Road, Manningham. He was senior lecturer in architecture for the Bradford education committee. He served his articles with Mr. Herbert Hodgson, of Bradford, and was formerly manager of the architectural department of Marriotts, of Dewsbury. During the time Adamson was with him he had so much work that his health broke down several times. He had a great many buildings in Bradford, and also a great many drawings for architects up and down the country. He had no complaint to make as to the plaintiff's ability. The plaintiff was able when he was willing, but he was not always willing. The plaintiff attended witness's class in building construction at the Frizinghall Council school, and on several occasions he had to take him to task for his behaviour in class. The plaintiff misconducted himself by laughing and talking, and incited others to do the same. On one occasion witness found a sheet of paper with objectionable sketches on it between Adamson and another pupil. Witness computed roughly that Adamson had done about 20*l.* worth of damage in the office to instruments, drawing-boards, T-squares and writing-tables. Nearly every piece of furniture in the office was disfigured with grinning faces, Union Jacks, soldiers' helmets and a hundred other devices. On returning unexpectedly to the office one afternoon witness found Adamson pulling the other pupil's ear and causing him to cry out.

Cross-examined, the witness said he found the plaintiff guilty of "gross wickedness" from February 1904 onwards. He denied that in November 1904 he had given him a certificate of good conduct for his examination. The certicate was one of ability only.

Mr. Walter Pickering, builder and contractor, of Bradford, gave evidence with regard to an occasion on which the plaintiff made a statement to him damaging to the defendant's character. In cross-examination he admitted that the statement might have been intended as a joke.

A witness who was formerly a caretaker at the Frizinghall Council school said that he once caught the plaintiff making objectionable drawings in the books of other pupils and reported him.

His Honour reserved judgment in order that he might consider certain legal points raised in the case.

SUPPLY OF ELECTRICAL ENERGY IN LONDON.

THE following report has been prepared by the highways committee of the London County Council relating to the supply of electrical energy :—

We desire to direct the attention of the Council to the very important issues which have been raised in connection with the introduction into Parliament in the session of 1905 of several Bills dealing on a much larger scale than any brought forward hitherto with the supply of electrical energy in London and certain adjacent districts. The largest of these schemes, that promoted by the Administrative County of London and District Electric Power Company, contemplated the supply of energy, both in bulk and also to large retail consumers over an area of upwards of 500 square miles. The basis of this scheme was that the company should by agreement, or, failing this, by competition with the consent of the Board of Trade, eventually become suppliers of electrical energy in bulk to all the local authorities and companies supplying in London and in a large area outside London, or else absorb the existing undertakings and carry on the whole service. In the event of the existing supplying authorities not being absorbed, they would "scrap" their generating-stations and become retailers or distributors of the energy sold to them in bulk or wholesale by the Administrative Company. At the present time about half London is supplied with electrical energy by local authorities' undertakings, each confined to a single borough, and the other half is supplied by companies whose undertakings are, with a few minor exceptions, compulsorily purchasable by the borough councils in 1931.

This right of purchase by the borough councils, which is a cardinal feature of the Electric Lighting Acts of 1882 and 1888, still exists, but its value and practicability have become seriously jeopardised by the character which the companies' undertakings have assumed.

Inasmuch as a single company's undertaking often extends through several boroughs, whilst there is only one generating-station, many local authorities will, if present circumstances continue, only be able to buy mains and no station, while others will only be able to buy mains and a station far too large for the needs of a single borough. In some cases, moreover, the stations are outside areas of supply, and, it is contended, not purchasable at all.

We have frequently drawn attention to these difficulties when, on former occasions, schemes much more restricted in character and extent have been put forward. The scheme of the Administrative Company, however, raises these issues in a far more acute form. Had the Bill become law an enormous monopoly would have been created in the supply of what is now one of the most important and vital factors in the commercial development of London and the neighbouring districts. The danger of such a state of affairs is such that we do not feel it necessary to enlarge upon it now. It will be sufficient to remind the Council that the electrical supply, in common with the water, gas and tramways services, in most of the large cities in England is in the hands of the local authorities respectively concerned; it being clearly considered that a monopoly in services of this character, which are vital to the welfare of the community, should not be in private hands. It seems clear, however, from the fact that this scheme (although it largely ignored the statutory rights of existing undertakers and tended to the creation of a private monopoly) received the approval of committees of both Houses of Parliament, that those committees must have been convinced that electrical energy was not at the time supplied in a sufficiently attractive and cheap form to meet the needs of manufacturers and others in London and the immediate neighbourhood, and that, to enable a satisfactory supply to be given, a scheme or schemes on a much larger scale than any then authorised was necessary. A great feature of the case for the Administrative Company's Bill was that existing areas were too small to admit of the generation and distribution of energy on the most economical scale, and, consequently, at the lowest prices.

While admitting the proposition that larger areas than several of those at present existing are necessary to secure these ends, we do not feel that it is necessary either to entirely disregard the statutory rights of existing undertakings or to place them in such a position as will make it impossible for them to carry out their service.

What is required at this juncture of the history of the electricity question is, in our opinion, that a complete view of the case should be stated by an authority capable of putting that case before Parliament. Up to the present all that has been attempted has been to deal with the problem separately from the company's standpoint and the borough council's standpoint, which together do not, however, make up the whole case so far as it concerns London. This for the reasons set out in this report can, we think, be most adequately done by the Council as the central municipal authority. We have accordingly carefully considered how the advantages aimed at can be gained otherwise than by the creation of a private monopoly, and we have arrived at the conclusion that, having regard to the extent of area necessary to secure economical supply, and to the importance of preserving, as far as possible, the existing rights of local authorities and the principle of municipal ownership contemplated by the Acts of 1882 and 1888, the only possible alternative is for the Council to obtain such powers as will enable it to supply electrical energy in London and the neighbourhood, the Council being the only London municipal authority entrusted with an area large enough to allow of generation on the necessary economical scale. The fact that the Council already has a very large generating station to supply electrical power for the tramways of London is in itself largely in its favour by rendering possible a load of the most economical character. We would point out, too, that one important objection which was raised in the case of the Administrative Bill was the enormous powers that would be conferred on private individuals in respect of the breaking up of streets and the interference in other ways with public property. It seems obviously desirable that such extensive rights as would have been conferred in regard to public property should be in the hands of a public authority, and, moreover, as the Council is itself from time to time laying electric mains in all parts of London for tramway purposes, considerable convenience and economy of work would be gained were the two services in the Council's hands. In addition there is the fact that the Council is already responsible for the conduct of very large services involving the consumption of such similar stores and the formation of such similar organisations as would be necessary for the supply of electrical energy. In view, therefore, of these considerations of economy, and also the importance of retaining in public hands the control of a service so essential to the development of London in the future, we believe that the Council will think it right to seek powers to enable it to supply electrical energy as proposed. The authority to be sought should, we think, include power (1) to supply energy in bulk throughout the whole of the area in question, and (2) to supply energy to large individual consumers, as, for instance, railway, canal and tramways companies or authorities where these undertakings extend over more than one area.

We have not at present gone fully into the details of a definite scheme for the supply of electrical energy, but from reports which we have had before us, and having regard to the favourable position in which the Council stands in many respects, we are of opinion that it will be quite practicable to put forward a satisfactory scheme, bearing in mind the importance of providing cheap electrical energy for general use in London, and at the same time securing continuity of the policy of public control which was intended to be insured by the purchase clauses of the Electric Lighting Acts of 1882 and 1888.

The Council on October 24, 1905, authorised us with the parliamentary committee to confer with representatives of the London local authorities upon the whole question of the supply of electrical energy in London. It is proposed to hold this conference on Monday, November 20, and we will then place our proposals, in the event of the Council adopting them, very fully before the local authorities. In the meantime, however, we have thought it right, having regard to the short time available for the issue of the necessary parliamentary notices as to the deposit of a Bill, &c., to place before the Council this outline of the policy which we recommend it to adopt. We have, as required by standing orders Nos. A 27 and A 161, informed the finance and parliamentary committees of our intention to recommend the Council in this sense. It is, however, necessary for us to ask the Council to suspend the operation of standing order No. A 161, which requires that all proposals relating to applications to Parliament for powers shall be submitted to the Council not later than its first meeting in June of each year. We think that this is clearly a case of urgency, which comes within the class contemplated by standing order No. A 162, inasmuch as it was not until August that it was known that the Administrative Company's Bill would not pass. We have consulted the solicitor, in accordance with standing order No. A 163, and he is of opinion that the Council has power to promote legislation in the direction indicated, provided that the provisions of the Borough Funds Act, 1872, as applied by the County Councils (Bills in Parliament) Act, 1903, are adopted. We recommend—

(*a*) That the operation of standing order No. A 161, relating to the time for the submission to the Council of schemes involving application to Parliament, be suspended, in order that the following recommendations may be considered.

(*b*) That authority be sought in the session of Parliament of 1906 (i.) to enable the Council to supply electrical energy in London and certain surrounding districts on the lines indicated in the report of the highways committee, dated October 23, 1905; (ii.) to confer upon the Council power to carry out any necessary works, including the erection of buildings, the laying of mains, &c., necessary to give effect to such powers; (iii.) to empower the Council to make arrangements with local authorities and others having power to supply electrical energy, and to enter into agreements to give effect thereto; and (iv.) to confer upon the Council any general powers which may be necessary to enable it effectively to supply electrical energy.

(*c*) That the costs and expenses of promoting the legislation referred to in the foregoing resolution be defrayed out of the County Fund.

ARCHITECTURAL REFINEMENTS.

THE third of the series of lectures upon the subject of "Architectural Refinements" was delivered by Mr. W. H. Goodyear on Tuesday, October 24, in the Scottish National Portrait Gallery, Queen Street, Edinburgh, the particular subject of the evening being the refinements present in the buildings of classic Greece.

After an account of the discoveries of the Greek refinements, the lecturer took up the question of causes and explanations. The popular explanation that the Greek curves in elevation were intended to correct a sagging effect in a long horizontal line has no authority to support it, although it appears to be making its way into popular compendiums. Penrose never suggested such an explanation, nor has it been suggested by any other standard authority. Neither Hoffer, Thiersch, Hauck, Burckhardt, Kügler, Schnaase, Boutmy or Burnouf ever suggested such an explanation. Experts in curvilinear perspective assert an exactly contrary appearance. A horizontal line curves optically upward when seen above the level of the eye. It curves optically downward only when seen below the level of the eye. What Penrose suggested is an entirely different matter, viz. that there is a sagging effect of a horizontal line under a gable. This is true, but this does not account for the curves on the flanks. Therefore the explanation of Penrose has been universally rejected or ignored by the continental authorities. Thiersch and Hauck have also shown that the explanation of Penrose does not even meet the problem of the curve in the stylobate under the gable. The stylobate is supposed by Penrose to have been curved to harmonise with the entablature, but as long as the curve of the entablature under the gable is conceived by Penrose as simply correcting an optical sagging, the entablature would, on this theory, appear straight, and consequently there would be no occasion to curve the stylobate for reasons of harmony. The lecturer next pointed out that the theories of optical correction which had been advanced by Thiersch and Hauck (which he explained in detail), were undoubtedly advanced on the theory of Penrose, but as they were formulated in ignorance of the curves in plan in the temple of Medinet Habou, they were thrown out of court by this very simple circumstance. The existence of these Egyptian curves was not made known to the world until 1878, although they were discovered by Pennethorne in 1832, in advance of his discoveries of the curves of the Parthenon. The only optical expert who has published on the curve since 1878 is Guido Hauck. His work appeared in 1879, only one year later, and he was not aware of Pennethorne's publication of the previous year. Thus the lecturer explained that the theories of optical correction for the Greek curves must be considered as out of date. They have never figured in the publications of the great German authorities on the history of art, like Burckhardt, Kügler and Schnaase. These authors have considered the sentiment of beauty a sufficient explanation, and as Penrose himself mentions "the beauty inherent in a curved line" as a concurrent explanation for the curves on the flanks, it may be safely accepted as a theory satisfactory to all parties. The theory that the Greek curves were intended to build in effects of curvilinear perspective, in harmony with and accenting the rising curves which all horizontal lines above the level of the eye optically present under normal circumstances, is not to be neglected. This theory was advanced by Hoffer in 1838, and his publication long preceded that of Penrose in 1851. But Hoffer again insisted on the sentiment of beauty as a concurrent cause. In 1870 Boutmy again developed the perspective theory, but again accented the sentiment of beauty. The Egyptian curves in plan may come under both explanations. The curves in plan on the flanks of the Temple of Neptune at Paestum were announced by Jacob Burckhardt. The curves in plan of the Maison Carrée at Nîmes were announced by the lecturer in 1895. These curves cannot be brought under any theory of optical correction that has ever been advanced by a standard authority on optics. The general argument of the lecture was therefore this: the contention that the Greek curves were solely optical corrections has no standing. Therefore the contention that the Mediæval curves cannot be derived from Classic, because they are not optical corrections, has no standing.

The lecture was illustrated by a series of interesting limelight views of the Parthenon and other buildings of Greek origin, the temple of Medinet Habou at Thebes, and diagrams showing various optical illusions produced by different arrangements of lines, &c.

GLASGOW ARCHITECTURAL ASSOCIATION.

A LECTURE was given at the last meeting of the Glasgow Architectural Association by Mr. Robert F. Sherar, a delegate from the Edinburgh Association, on "Linear Perspective," illustrated by photography. After tracing the history of the science from the conventional representations of the ancient Egyptians to the finished realism of the Middle Ages, he said that the researches of the science as such had been practically exhausted by Dr. Brook Taylor and successive writers in the eighteenth century, but it was always possible to improve on the methods of stating facts and of teaching how to apply the theory to practice. He thought that illustrating perspective as he did that night by photography would be something new to them. Mr. Sherar referred to the confusion of ideas expressed by the term "picture plane," and discussed a few questions arising perennially from this confusion, among which was the question of vertical parallel lines converging towards a vanishing point. He then described the elementary conditions on which the science depended, and distinguished between the perspective appearance of objects as we see them and the perspective image as we draw them on paper. Two photographs of the same building from the same spot were shown, one on the right-hand side of the photographic plate and the other on the left-hand side, which were quite different in the perspective lines, and it was explained that they were both equally correct records of the perspective appearance as we saw it, but records only. To prove this Mr. Sherar exhibited a photograph of the first of these two "pictures" taken with the camera placed so that the image of the picture fell on the left-hand side of the photographic plate instead of the right-hand side, and the result was the same as the second picture. From this he laid down the rule that the perspective appearance of objects depended on the position of the spectator, or in photography of the lens, and on this only; and that the perspective image depended on the surface on which it was delineated, whether it was a picture plane, vertical or otherwise, or a picture curved, as a panorama, &c. In dealing with the distance a spectator should be from the object in order to produce an agreeable result, Mr. Sherar produced three interesting photographs of the east end of Princes Street, Edinburgh, showing the Calton Hill in the distance, and said he had often heard it remarked that photography did not give correct perspective, distant hills, &c., always coming out too small. The first photograph showed the Calton Hill about a quarter of the height of the buildings, the second showed it the same height, and the third showed it twice the height. This, he said, depended on the distance the spectator or photographer was from the objects to be represented. The choice of this distance, he said, was one of the most important preliminaries of picture-making, whether by photography or other means. The conditions which should guide the selection of this distance were not clearly defined in modern books on perspective.

The lecture was illustrated by original photographs. Having gone so far in describing the theory of the subject, the lecturer explained what he considered the best method of applying this theory to practice by working out an example in charcoal lines, the way in which he dealt with the distant station point and vanishing points being an idea of his own.

At the close of the lecture he presented to the Association's library a copy of his book, "Perspective Tables," describing his methods, which he hoped they would find of some use.

The Chairman suitably acknowledged the presentation.

Correspondence

The Selborne Society.

Sir,—In writing to thank you for your very kindly and sympathetic notice of the Selborne Society, may I point out that the Association has existed since 1885, and is, in fact, twenty years old instead of the ten which you mention? When it was founded many of the societies which now specially deal with certain parts of its objects were not in existence, and the fact that the Society paved the way for these should alone entitle it to recognition.—With compliments, yours faithfully,

Wilfred Mark Webb,
Honorary Secretary of the Selborne Society.
20 Hanover Square, W.: October 28, 1905.

GENERAL.

The Fund for repairing Canterbury Cathedral has now reached a total of 12,448*l.* Recent donations include one of 1,000*l.* from "An Old Lover of the Cathedral."

The General Committee of the British Association on Tuesday passed the following resolution, which was unanimously adopted:—"That, having regard to the fact that no meeting of the Association has as yet been held in Leicester, the general committee decides to accept the cordial invitation from that town, and at the same time expresses its most hearty appreciation of the kind and courteous invitation from the city of Dublin, and ventures to express the hope that that invitation may be renewed at an early date." The resolution refers to the meeting of the Association in 1907.

Messrs. W. H. Smith & Son announce, with reference to the shop front competition for which they offered a 75*l.* prize, that the drawings sent in by Messrs. J. & J. B. Ednie, 81 Ashley Terrace, Edinburgh, and Mr. James W. Morton, 13 Wellington Square, London, S.W., have been judged equal in merit. Under these circumstances they have added 25*l.* to the prize, and with the consent of the two competitors in question have awarded 50*l.* to each of them.

The Consulting Architect to the Government of India in future may be consulted by local authorities in regard to such schemes as require the sanction of the Local Government.

The Competitive Designs for a school to be built in Norman Street by the Carlisle education committee have been finally considered by the committee. It was decided to recommend the acceptance of the plans of Messrs. Oliver & Dodgshun, Carlisle. Premiums were offered of 75*l.*, 30*l.* and 20*l.*, to merge, in the case of the accepted design, in the commission. The second premium was awarded to Mr. F. Lishman, Carlisle, and the third to Mr. J. W. Benwell, Carlisle. There were five designs sent in, and Mr. W. H. Brierley, of York, was the assessor. The plans include provision on the same site as the school, which is to cost about 12,000*l.*, for about forty defective children.

The Bishop of Southwell, Dr. Hoskyns, has decided to build an episcopal house at Southwell, believing that, although Nottingham or Derby would prove a more convenient centre, his residence should be where the cathedral is. The cost of the new palace, plans for which are now under consideration, is estimated at about 12,000*l.*

The Restoration of the three bays of the historic church of St. Bartholomew-the-Great, West Smithfield, is now complete. The Bishop of London has fixed Saturday, December 2, for the official opening.

The Bishop of Winchester, speaking on Friday last at Camberley, strongly condemned anything in the way of jerry-building in the Church. He urged that a thought of their cathedral ought to inspire churchmen to a feeling of dissatisfaction with ordinary and cheap methods that merely satisfy the superficial anxiety of the moment.

Mr. J. H. Woodhouse, president of the Manchester Society of Architects, and Mr. Paul Ogden, have been appointed representatives of the Society on the advisory committee of the Manchester School of Architecture.

The One Thousandth Anniversary of the foundation of Romsey Abbey, Hampshire, will be celebrated at Whitsuntide 1907. The founder was Edward the Elder. The greater part of the present fabric is attributed to Bishop Henry de Blois. Two small chapels stand in the eastern sides of the transepts.

The Egyptian Government being desirous of testifying its high appreciation of the services rendered to the State by Sir W. E. Garstin, its Adviser for Public Works, will present him with 15,000*l.* Sir W. E. Garstin, who will not retire from his position and will retain his right to a pension, was appointed Inspector-General of Irrigation and Under-Secretary of State for Public Works in Egypt in 1892.

Mr. Robert Scott, of Messrs. Robert Scott & Son, measurers, 115 Wellington Street, Glasgow, died in that city on Friday. Mr. Scott has for the past twenty years acted as surveyor to His Majesty's Board of Works. In this capacity he measured the Inland Revenue Offices, the Court houses, the new parcel post office in course of erection in Waterloo Street, and the other post offices erected in the West of Scotland. Mr. Scott, besides, did a good deal of public and private work. As a result of a paper which he read to the Architectural Section of the Royal Philosophical Society the Glasgow Institute of Measurers was formed. For six years he acted as honorary secretary of that body and in 1890 he was elected president.

A Figure of Millais is to be unveiled in the grounds of the Tate Gallery. It has been executed by Mr. Thomas Brock, R.A., and was commissioned privately five years ago by a number of admirers of the painter. Mr. Brock has chosen for the pose of his statue the favourite attitude of Millais when standing before the easel, with brush and palette in hand.

The Prize Committee of the International Art Exhibition in Venice have awarded a diploma of honour to Mr. Frank Brangwyn, A.R.A., for his decoration of the British room at the exhibition, and a gold medal for his four panels. The jury has proclaimed Mr. Walter Crane and Mr. J. W. Waterhouse, R.A., to be of such fame as to be beyond prizes.

The Ancient Church of St. Piran, Cornwall, which was recently discovered in the sands at Perran, is about to be restored. Mr. Edmund Sedding, of Plymouth, who has been invited by the Truro Diocesan Conference to make suggestions and prepare plans, has offered to supervise the work, free of cost, if his proposals are accepted. The church of St. Piran stands near an ancient town of Cornwall, long since lost in the sands, and is considered to be by far the oldest in the county. Only the bare walls now remain.

Last Year a Roman conduit was discovered in one of the suburbs of Vienna. Diggings which have since been made laid bare about 700 metres of the aqueduct, which, though 1,700 years old, is in so splendid a state of preservation that experts assert that it could still be used. The diggings will be continued, to ascertain from what sources the water came which fed the conduit.

The Queen Victoria Memorial in Birkenhead has been formally handed over to the Town Council. It consists of an octagonal Queen Eleanor Cross 70 feet high, suggested by the Cross in Northampton. The monument has been built of grey Darley Dale stone and the steps at the base are of unpolished Newry granite. The contractors are Messrs. John Thomas & Sons, Oxton, and the honorary architect, Mr. Edmund Kirby, of Birkenhead.

The New Baptist church and schools, Wavertree, Liverpool, erected from designs by Messrs. G. Baines & Son, architects, London, on a site surrounded on three sides by wide roads, have been opened. The church seats 775 adults, the seating being circular on plan. The contract amount was 8,693*l.*

Mr. George Robert Stephenson, a past president of the Institution of Civil Engineers, died at his residence, Hetton Lawn, Charlton Kings, Cheltenham, at the advanced age o eighty-six. He was nephew of George Stephenson, unde whom he served as a pupil. Mr. G. R. Stephenson was engaged on a large number of railways both at home and abroad, as well as on the great bridge across the Nile and the superstructure of the Victoria bridge across the St Lawrence at Montreal.

Professor Beresford Pite, the director of architecture a the London County Council School of Building, has asked for the appointment of an assistant instructor in architectural design and drawing on three evenings a week. Two classes are under instruction and the assistant is required for the elementary class.

A Committee has been formed in Bognor to promote the erection of a new church to replace a temporary iron structure. Mr. Fellowes Prynne, the architect, described the plan of the proposed church, which has a nave 94 feet long and 30 feet wide, a north transept which could be used as a chapel, a gallery at the west end, chancel, vestries, &c., with a total of 886 regular sittings. The cost is estimated a 10,765*l.*, including 500*l.* for the foundations of the tower or the north side.

A Collection of political sketches by John Leech has been arranged at the National Art Library, South Kensington With them are proofs of the woodcuts for which they were employed.

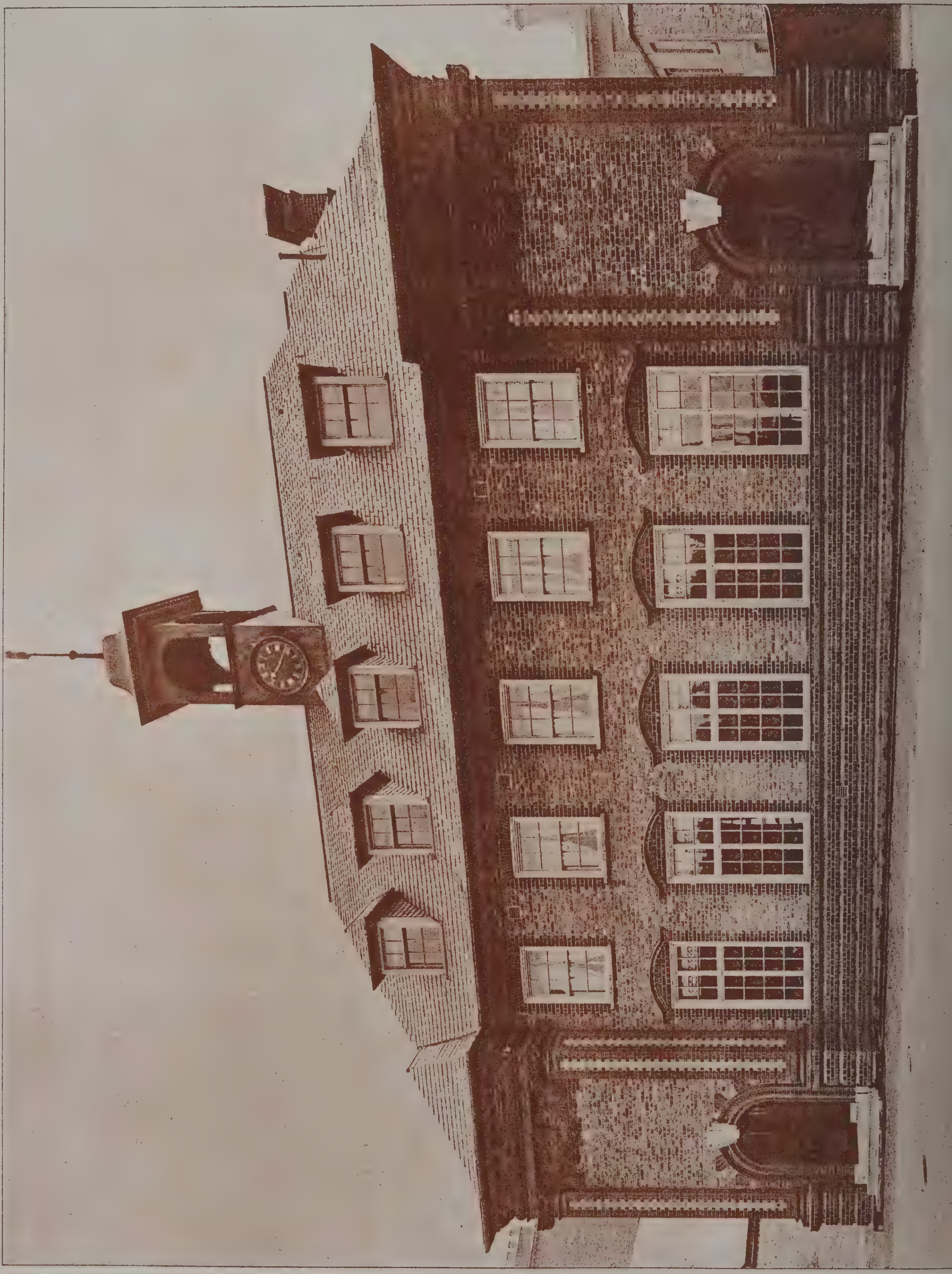
Differences have arisen between the expert engineers engaged respectively by the Scarborough Town Council and the contractors for the new Marine Drive round the foot of Castle Hill as to the extent of the repairs and alterations necessary to guard against future damage to the sea wall and promenade. The contractors cannot see their way clear to consult a third engineer. At the last meeting of the Corporation, it was said they had a strong case, but it would be better to spend money on repairs than on litigation. The London and Westminster Bank will be approached once more to see if the matter could not be referred to a third engineer and a legal expert.

Major C. E. Norton, R.E., Local Government Board inspector, recently held a public inquiry in respect to the Rochester Corporation's scheme, under section 61 of their Tramways and City Improvements Act, 1903, requiring them to provide new dwellings for certain of the labouring class who would be displaced from their present residences in consequence of the Corporation pulling down a number of dwelling-houses for the purpose of making a new street. They submitted a scheme for the erection of thirty-four houses, but the cost and the sums to be set aside for repayment of principal and interest would make it necessary to allow 9*s.* per house as a weekly rent. Inasmuch as there are forty-three cottages within half a mile of the place which are unoccupied and can be secured at about half this rent, the Corporation asked that the Local Government Board would not compel them to proceed with the scheme.

The Dudley Chamber of Commerce sent two of their members as a deputation to the Liège meeting of Associated Chambers. On Tuesday the Chamber received the impressions received by one of them. Referring to an inspection of works at Seraing, where 10,000 workpeople were employed, and which paid 10 per cent., it was remarked that the unpleasant part of their visit was when they were told that a large part of the output in girders, steel rails, iron and machinery, &c., were sent to England. When the manager of the works was asked what they would do when we stopped them dumping their goods in our market he simply smiled and said, "English people were too kind to do that."

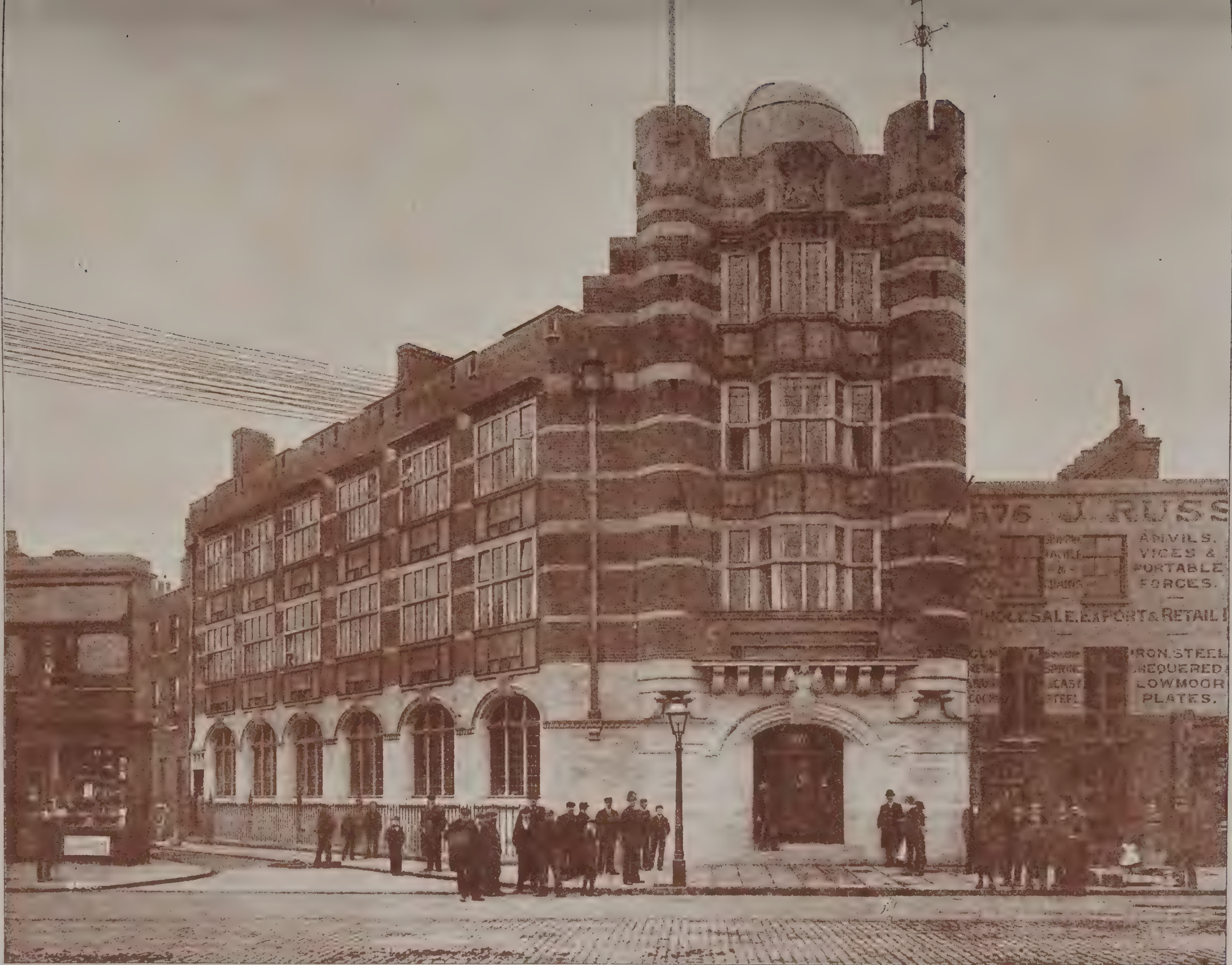
Sir Alexander R. Binnie will deliver his address as President of the Institution of Civil Engineers on Tuesday next. The medals and prizes will be delivered, and there will be a reception.

Judge Woodfall, in the Westminster County Court, decided that the Metropolitan Water Board were entitled to have a distinct payment for each separate delivery above a height of 10 feet, although there was but one supply pipe, and that a garden supply must be paid for separately, notwithstanding that the garden was included in the assessment of the house, and consequently paid for in the water rate. The defendant said that though he had been in the house five years these charges had never been made until now.



~ANNEXE · SCANDINAVIAN SAILORS' HOME · LONDON~

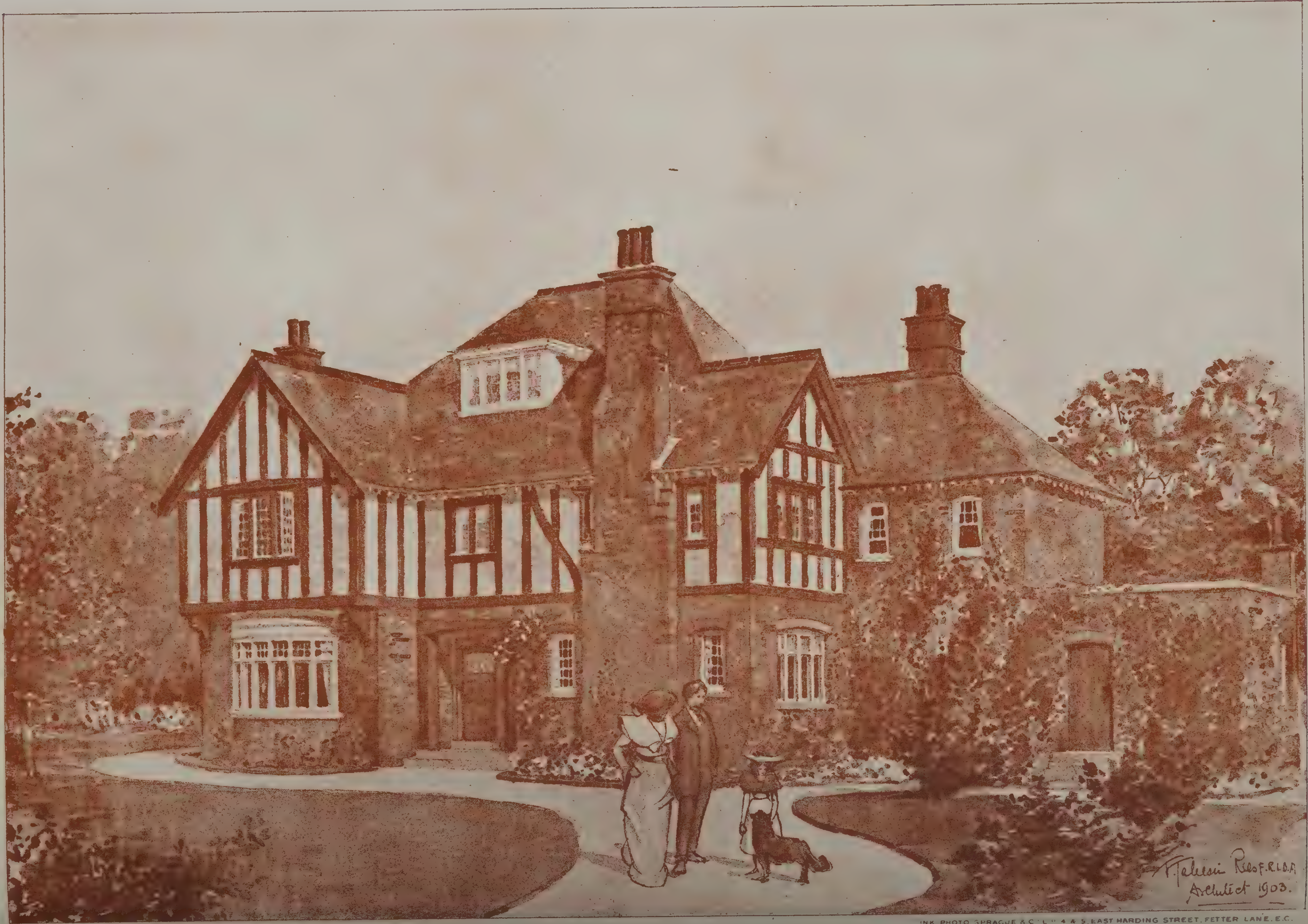
NIVEN AND WIGGLESWORTH, ARCHITECTS,
104, HIGH HOLBORN, LONDON.~


376 J. RUSS
ANVILS, VICES & PORTABLE FORGES.
WHOLESALE, EXPORT & RETAIL
IRON, STEEL CHEQUERED & LOWMOOR PLATES.
SPRING & CAST STEEL

INK-PHOTO, SPRAGUE & Co Ltd 4 & 5, EAST HARDING STREET, FETTER LANE, E.C

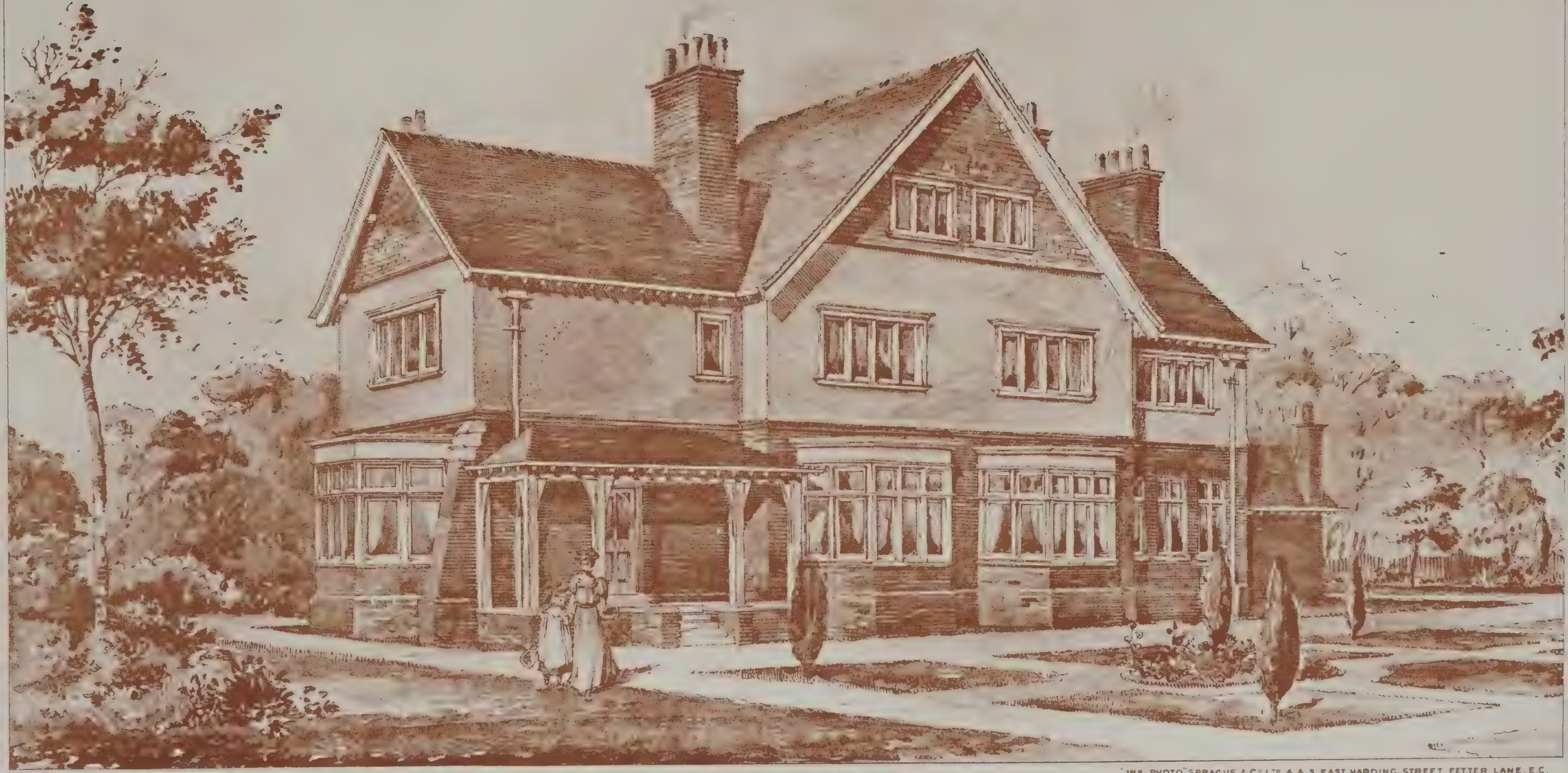
PASSMORE-EDWARDS SAILORS' PALACE, LONDON, E.

Messrs. NIVEN & WIGGLESWORTH, Architects.


T. Taliesin Rees F.R.I.B.A.
Architect 1903.

INK PHOTO. SPRAGUE & Co L^td 4 & 5. EAST HARDING STREET. FETTER LANE. E.C.

DESIGN FOR RESIDENCE.
T. T. REES, Architect.

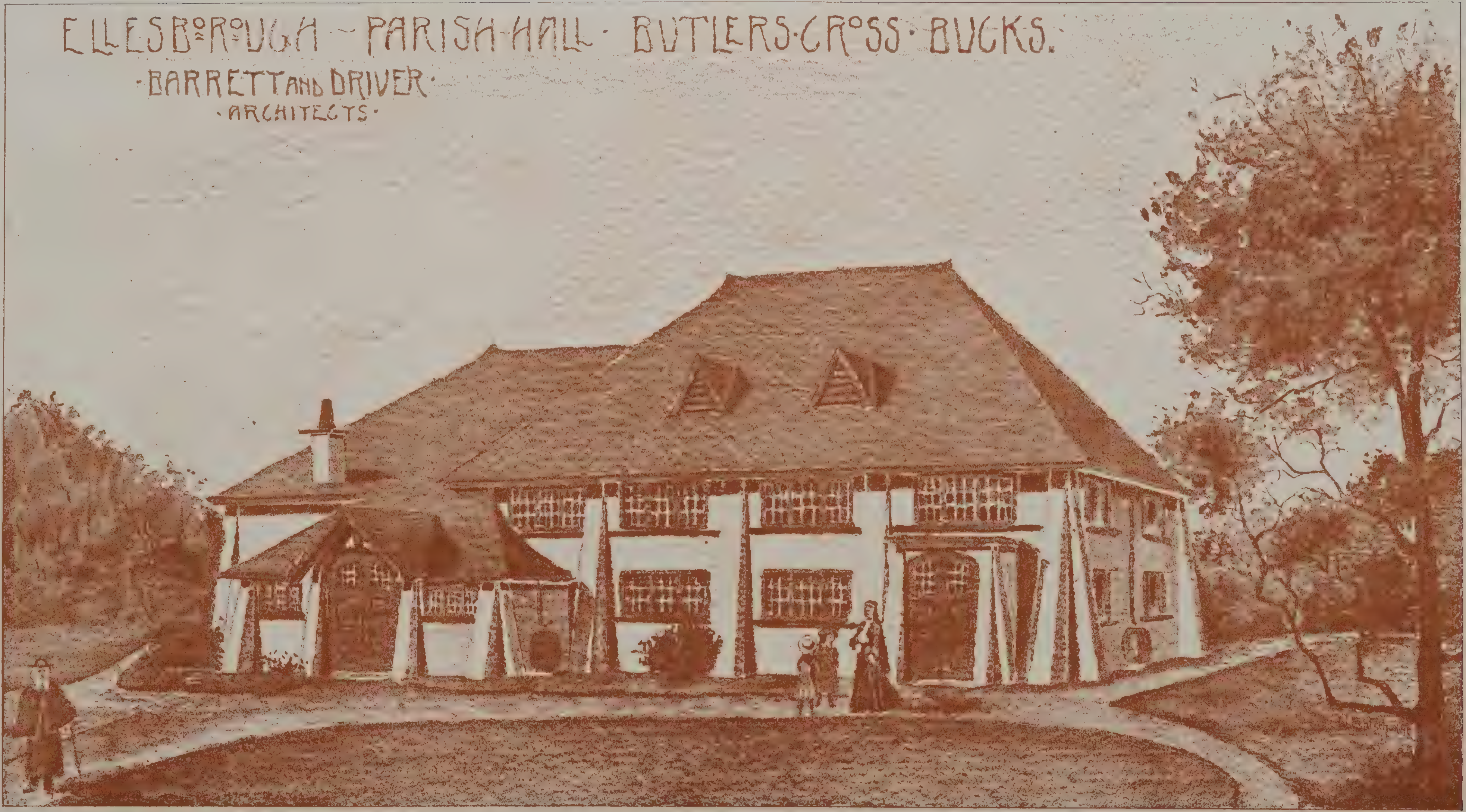


INK PHOTO. SPRAGUE & Co Ltd 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

RESIDENCE, GAYTON, CHESHIRE.

T. T. REES, Architect.

University [illegible]



ELLESBOROUGH ~ PARISH-HALL · BUTLERS-CROSS · BUCKS.

·BARRETT AND DRIVER·
·ARCHITECTS·

"WESTFIELD" FARNBOROUGH · KENT

BARRETT AND DRIVER
ARCHITECTS·

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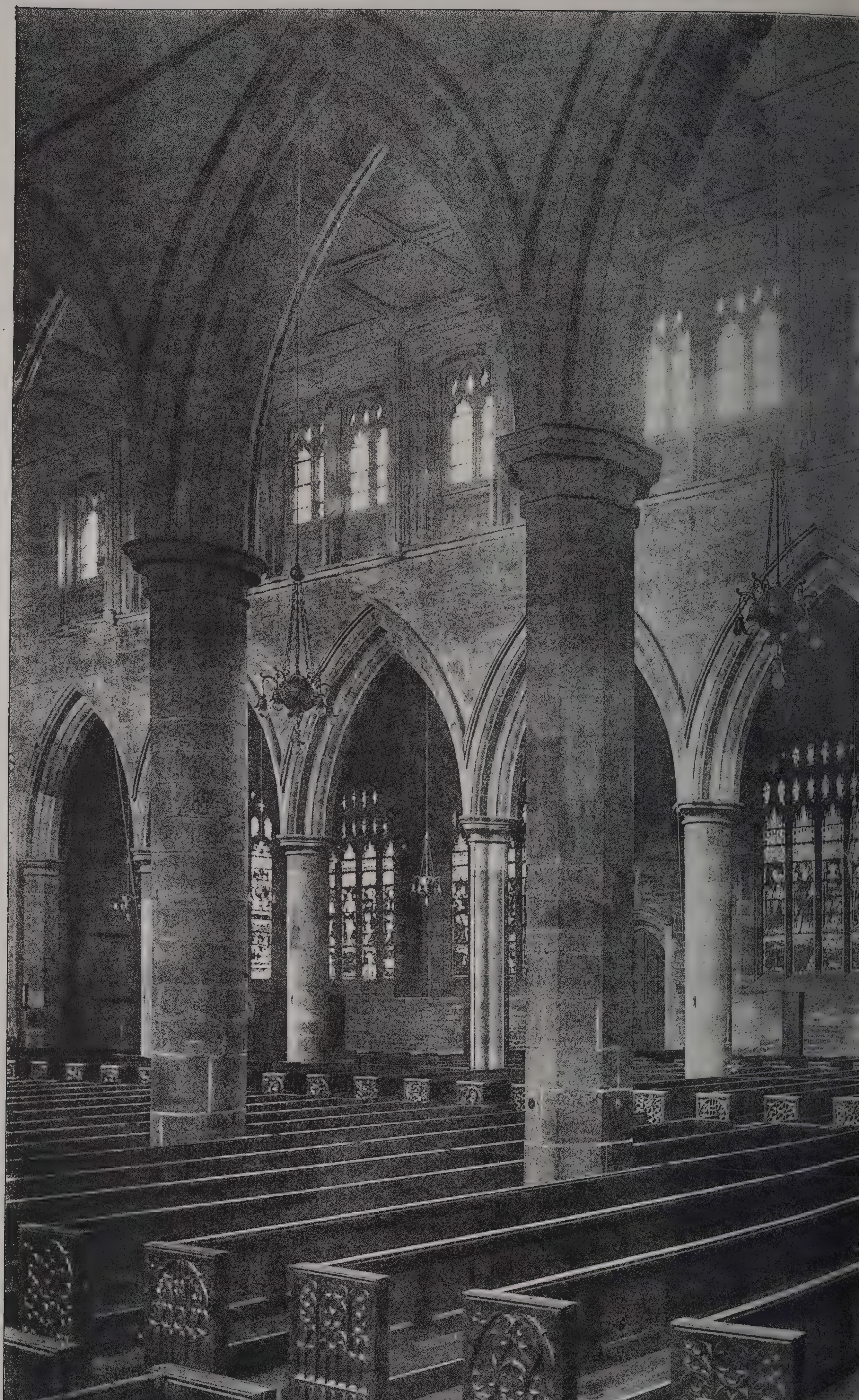
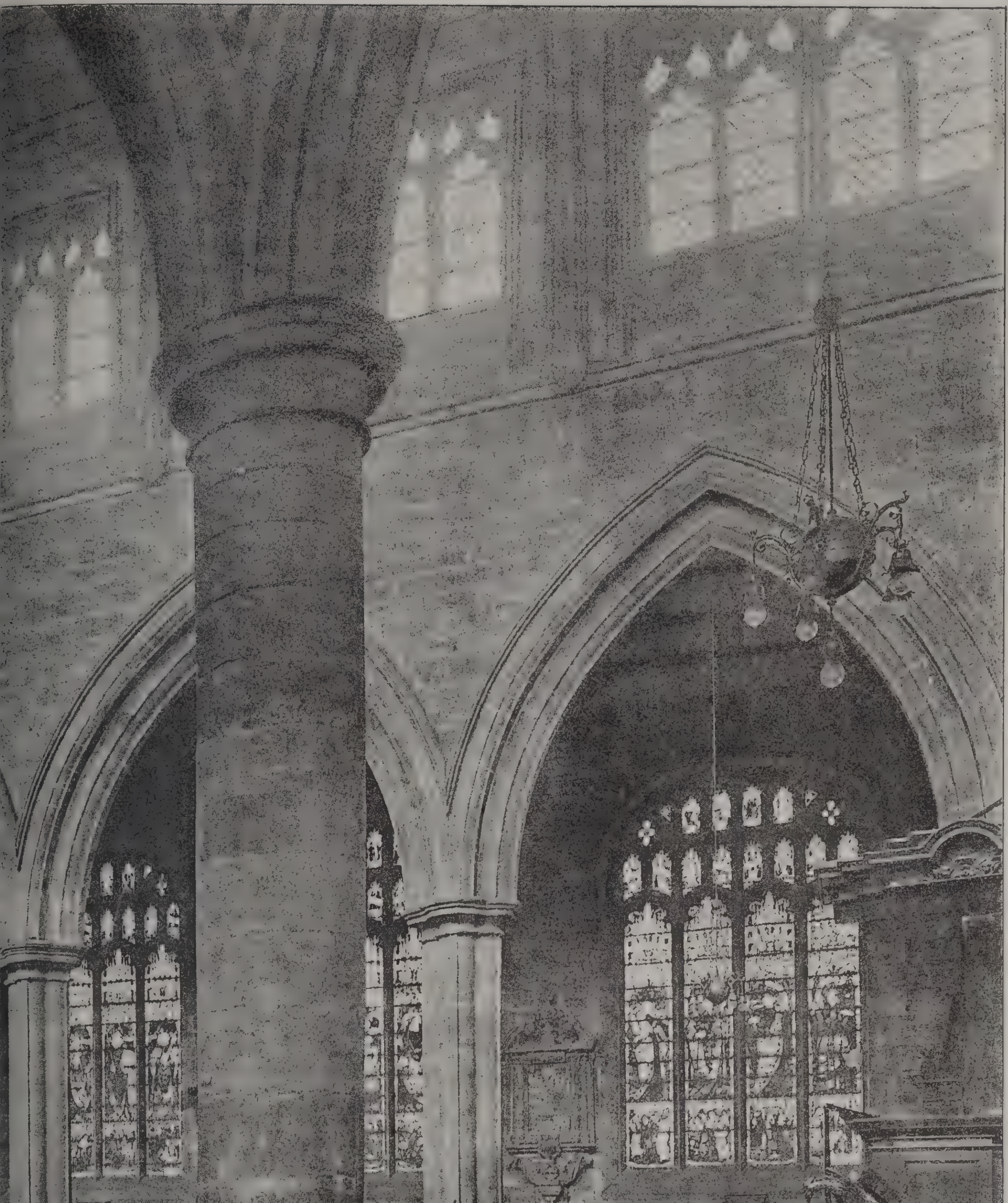


PHOTOGRAPHED BY CHAS. R. H. PICKARD, 5 PARK LANE, LEEDS.

CATHEDRAL SERIES, No. 539.—WAKEFIELD: VIEW FROM SC



INK PHOTO. SPRAGUE & Cº LTD 4 & 5, EAST HARDING STREET, FETTER LANE, E.C

ST CORNER OF SOUTH AISLE, LOOKING NORTH-WEST.

The Architect.

THE WEEK.

The late Mr. Gladstone held so important a place in politics and Government during a large part of the nineteenth century, the question of a site for a memorial of him could not be determined merely by local considerations. Otherwise the position so close to St. Clement Danes Church in the Strand, where Mr. Hamo Thornycroft's work has been set up, would appear to be more fit for a statue to Dr. Johnson. Like other of the sculptor's works, it is most effective. Mr. Thornycroft's figure of Gordon shows that he can dispense with drapery without any sacrifice. But he has treated the great robe of a Chancellor of the Exchequer, which Mr. Gladstone wears, in a masterly manner, and with the detail to which bronze lends itself. The figure is reposeful, and might be said to indicate a man who was contemplating the results of his own labours. Whether the groups of *Brotherhood*, *Courage*, *Education* and *Aspiration*, which are at the base of the statue, can be considered as advantageous is open to doubt. In some secluded place the figures might be suggestive, but in so busy a thoroughfare as the Strand people are not much likely to bestow attention on what is subsidiary. A passing glance at the figure is all that can be expected. The total height of the monument is 33 feet. The base is cruciform in plan, and surrounded by a pavement 5 feet wide. Care has been taken to use the "Nonslip" paving and the "Ystehede" granite kerb, both of which were supplied by Messrs. Brookes, Ltd., from their own quarries. The flags have been cut by hand to radius. In the architectural details the sculptor has had the assistance of Mr. John Lee, architect. Beneath the memorial is a concrete mass 19 feet deep.

Sir Francis Powell has served the Royal Scottish Society of Painters in Water-Colours as president since its formation twenty-seven years ago. As a testimony of the respect in which he is held by the Society it was decided to present him with a collection of water-colour drawings by the members. Sixty-five were produced, which were mounted and arranged in two volumes bound in red morocco and gold. The first volume bears the following inscription:—"This collection of sketches (in two volumes), by members of the Royal Scottish Society of Painters in Water-Colours, is presented to Sir Francis Powell, R.W.S., LL.D., in token of their deep personal regard and appreciation of his invaluable services as President of the Society since its formation in 1878. The members gratefully recall that mainly owing to his efforts was obtained the honour of their Association being constituted a Royal Society by their late revered sovereign Queen Victoria, in 1888." The companion volume is inscribed as follows:—"Presented to Sir Francis Powell by the members of the Royal Scottish Society of Painters in Water-Colours, October 1905." Although president of the Scottish Society, Sir Francis Powell is an Englishman, for he was born in Manchester in 1833, but he has for a long time been associated with the North.

If a local authority acquires land under the Electric Lighting Acts it can only use this land for the purposes of those Acts. If part of the land so acquired is not required for the purposes of those Acts it must be bona-fide sold at the best price that can be got for it. The local authority cannot sell and repurchase in order to make use of the land for purposes which are not allowed by the Electric Lighting Acts. These principles were clearly explained by Justice Farwell in the case of the Attorney-General *v.* Pontypridd Urban Council. The Council, having acquired land for the purpose of the erection of an electric-generating station, wished to use part of the land for the erection of a refuse-destructor to be used in conjunction with the electric-generating station. To evade the statutory prohibition of the Electric Lighting Acts this land was conveyed to a purchaser for a certain sum and repurchased by the local authority for the same sum. It was held that this was illegal. No doubt land might have been acquired for the purpose of erecting a refuse-destructor under the Public Health Act, 1875; but this land was acquired for the purposes of the Electric Lighting Acts. As Justice Farwell put it:—"These statutory powers must be treated as given separately, in compartments, so to speak, and the local authority, having got a power for one purpose, and having acquired land for that purpose, cannot use the land so acquired for any other purpose without special leave." It is clear that the maintenance of this principle is a matter of considerable importance. The sanction of the Local Government Board, after a proper inquiry has been held, is necessary for all such purchases of land. If such evasion of the Acts were possible the Local Government Board's sanction might be reduced to a nullity. Under cover of a sanction for one specific work the local authority might proceed to embark upon works of a wholly different character.

The meeting-room of the Royal Victorian Institute of Architects in Melbourne was lately used for the exhibition of a mounted copy of a large architectural poster, recently designed and drawn by Mr. Robert J. Haddon, one of the Fellows. The completed work is 13 feet 6 inches by 10 feet, and depicts from a high point of sight a new building in Sydney now approaching completion, which is supposed to be the largest block of business premises in Australasia. The floor space covers 13 acres, and ten million bricks were used in the construction. The poster shows the main façades, with some 400 figures in the street and numerous vehicles. The execution of this large drawing was carried out on a specially prepared boarded wall, with giant T-square and straight-edges. After setting up the architectural portion of the work, models were secured, and numerous outside sketches made from life. The paper was then divided into sixteen equal-sized sheets, cut down and transferred to lithographic stones. After this had been done the sheets were replaced in position and the whole coloured. The various masses were then traced, and colours analysed and drawn up upon separate stones. In this way some sixty-four large lithographic stones were used and some 16,000 sheets of paper, the time of drawing on stone being estimated at 700 hours.

It was characteristic of M. Edouard Detaille that when addressing the winners of the Prix de Rome, on Saturday last, he said how they recalled to him an old lithograph by Raffet representing French troops in the days of the First Republic about to march on the old city. It was, he said, not to conquer Rome they were going, but to labour in tranquillity in one of its palaces. M. Detaille took care to point out that Rome should be only one stage in an artist's journey: Italy, Greece and wherever art left traces should also be sought. They were far from those days when art was taught almost like mathematics, and when a chief of an atelier, in taking farewell of his pupils and in the diligence, warned them against forgetting his manner. Now all were free to act with academic restriction; but wherever they went M. Detaille hoped they would be faithful to France. Another address was delivered on Saturday by M. Roujon, whose subject was Léon Gérôme, who died recently. In 1876 the painter prophesied that he would live to be very old and would be exempt from infirmity. This desire was realised, and M. Roujon suggested it was owing to his continuous labour, as if he believed he was still a youth.

THE DUBLIN CONTRACT CASE.

THE action taken by Pearson & Sons, Ltd., against the Corporation of Dublin to recover 36,374*l.* for work done has been decided in favour of the defendants. The Lord Chief Baron, however, allowed the plaintiffs a month to consider whether they would move to have the judgment set aside. Under ordinary circumstances it would perhaps be premature and injudicious to consider the circumstances of the case. But there are elements in it which may be treated without any interference with equity. We may say that we do not believe the case was one to be tried by a jury, and especially a Dublin jury. That city at the present time is overburdened by a large amount of debt. A verdict for the plaintiffs would add some 40,000*l.* to the sum already expended on the works out of which the action arose. Although executed they are not yet in operation, and it is well known that many of the citizens, including members of the Corporation, have doubts about their efficiency. During the trial some of the jurymen asked to be allowed to examine the part in dispute, their explanation being that, owing to the sum at stake and the way it would have to be met, they possessed more than ordinary interest in understanding the circumstances. A jury in that condition was liable to become partial. Besides, the question to be decided depended on the character of the plans, and whether they were prepared according to the customary practice, and did not differ in lack of information from those usually submitted to the examination of contractors who proposed to tender for large works. The case clearly was one for arbitration, and there is apparently no reason why that mode of determining the issue was not adopted.

Although the cause of action was alleged to be the misrepresentation of an existing wall which did not correspond with the reality, the origin of that wall was not sufficiently considered. As we shall see, it had only a temporary use, and was neglected for a long period. The Bay of Dublin, in which it stood, has been often compared with the Bay of Naples, and there is no doubt it forms a pleasing picture. But large tracts of sand are deposited in it, and notwithstanding continual care and expensive dredging, it is difficult for vessels to enter or to depart from Dublin at certain hours. The depth of water above the sand is not sufficient. In the eighteenth century the condition of the bay and the river Liffey flowing into it was so dangerous that the easy-going Irish Government were compelled about 1748 to construct a wall and roadway along the south side of the bay, with a basin or harbour for the convenience of travellers from England. They landed at a packet station which was known as the Pigeon House, and proceeded along the wall to Dublin. Afterwards it was found necessary to form another harbour at Kingstown on a larger scale. The Pigeon House became a depôt for artillery and military stores. The little harbour was superseded and became of no account. In course of time the depôt was also abandoned.

When it was decided that the river Liffey should cease to be the main sewer for Dublin, and that a different system must be adopted, the question arose how and where the sewage was to be treated. The low-lying sands or slob near the Pigeon House were selected for the outfall. By a happy thought it was proposed that the old harbour should be utilised for the necessary works. It was surrounded by a wall which was imagined to be able to support other walls, and the interior if once made dry would afford an area for operations. On maps of Dublin the wall is shown, and the belief arose that it must be of substantial construction. After resisting the waves for about a century and a half it was not unreasonable to suppose that the wall retained sufficient stability to support the walls of settling tanks or any weight which was necessary. In reality, however, the wall remained in position mainly through the inertia of the stones. It was not properly examined before the plans were prepared. But after the contract was taken by Messrs. Pearson some misgiving arose about its strength. The engineer of the Corporation inquired of the engineer of the Port if he knew anything about it. All the latter could say was "for all practical purposes it is now a dry stone wall, any lime or mortar having long since disappeared." Subsequently it was found, according to the Solicitor-General, when stating the plaintiffs' case, that the wall had no foundation, and did not penetrate a single inch below the ground; it was simply plumped down on the bed of the sea. That information, although not definite, ought to have been imparted to the contractors who tendered, even if they were left to deal with the difficulty in their own way. At least it should have been stated that the Corporation did not guarantee that the old wall was able to support a superstructure unless precautions were taken to give cohesion to the masonry.

Apart, however, from the question of strength, the value, or absence of value, of the wall as an enclosure should have been suggested in some way. It is impossible to pump a large area dry when the walls are made of stones without cement or mortar. Even the courageous Mrs. Partington, who was not daunted by the Atlantic, would admit that the Pigeon House Harbour was too much for herself and her famous broom. Out of the sum claimed by Pearson & Sons, Ltd., viz. 36,374*l.*, more than one-half, or 20,684*l.*, was due for extra pumping. It was necessary to pump 9,486,000,000 gallons before work could be done. Sir Weetman Pearson testified that in twenty-four hours while he was there from 15,000,000 to 20,000,000 gallons had to be pumped. If the wall was of the kind he had anticipated a small pump at the cost of 10*l.* or 15*l.* a week would have been sufficient to deal with the water. One of the engineers connected with the works wrote:— "If we did not know of the existence of the wall below the surface of the ground we could not guarantee any water-tightness." And again, he said he had "every doubt as to the existence of the wall, as to the exact depth, the exact shape, the exact character and the exact construction and bearing." Some may think that when the knowledge was of that kind it would have been preferable to have ignored the wall. It appears, however, that the plans were made to express the state of the knowledge on the subject, *i.e.* if we accept the opinion of the Corporation officials, who magnanimously acknowledged their ignorance. Dotted lines, it appears, in the Corporation offices express whatever is doubtful, not what exists below a certain plane. Sir Weetman Pearson congratulated the consulting engineer for having so ingeniously utilised an existing harbour wall as appeared from the plan. According to the contractor, the plan indicated to him as clearly as a drawing could that there was an existing wall, which was shown in full lines wherever it could be seen, and in dotted lines where it could not be seen. The wall was shown as existing 9 feet below Ordnance datum. In some cases the depth of the wall went below that. On going through the plans line by line and figure by figure, Sir Weetman said he found nothing that would lead anyone to believe there was the slightest doubt as to the existence of the wall. He did not know in 1901 that the Corporation had no information in their possession as to the wall. If he were an amateur it might be contended that the contractor was not acquainted with plans, but, as he explained, he had had a large experience of the kind.

It was remarkable that at the trial the case for the Corporation was not entered into. The single official who gave evidence was summoned by the plaintiffs. When, therefore, counsel for the Corporation asked the judge to rule that there was no case, he must have had a confidence in his position which, at a distance from Dublin, it is difficult to understand. His Lordship practically assented. The Lord Chief Baron has had a very long experience as a judge and he enjoys the reputation of being a most amiable gentleman. If we may presume to say so, that admirable quality was not without its influence. In Irish Courts it is not unusual to consider persons rather than things. His Lordship said that he could not allow gentlemen of position to remain under an imputation of fraud, that is to say, the engineers and other officials of the Corporation, without relieving them of that imputation. In England actions of a somewhat similar kind are constantly arising, but the personal element is excluded. Plans can be drawn without accuracy, and the man who does so may never think about the fate of the contractor who may have to carry them out. We do not suppose that any member of the Corporation staff anticipated that Pearson & Co., Ltd., or any Westminster firm would undertake the work in competition with Irish contractors. It would perhaps be more exact if we said that the plans were insufficient rather than inaccurate, and that might arise from many other causes besides a fraud. In such actions it is well to treat the litigants and their witnesses as if they were impersonal, A and B *v.* C and D, &c., and then it would probably be seen more clearly how the claim arose. An arbitrator perhaps would have found that if there were shortcomings on one side there were hasty conclusions on the other side.

The important point, however, which makes the case serve as a lesson to contractors now and in the future is that in courts of law deeds are esteemed beyond the best plans that can be drawn. Judges are generally sure of themselves when dealing with what is written. They are less confident when they have to deal with straight and curved lines, which often to them are as obscure as hieroglyphics. In the conditions the stereotyped announcement was made that everyone who proposed to become a contractor should before sending in his tender satisfy himself as to existing works, levels and so on—excellent advice, which is not attended to in one case in a hundred. But although it is taken by contractor after contractor as no more than a legal flourish or mere matter of form, it has become the instrument of setting aside many a valid claim. "Both parties," said Mr. Justice Brett in a former contract case, "must make their own calculations; that if the contractor finds that the employer is proposing to him something that cannot be done he ought not to offer to do the thing which in his mind cannot be done; and if he does not inquire into the matter, or runs the risk, he must take the consequences, or, if he thinks it doubtful, he ought to correct the agreement by an express covenant." The confidence which contractors place in engineers is enough to convince them that in the majority of cases all the evidence that is necessary has been collected. Occasionally it may be thought advisable to examine places where foundations are supposed to be doubtful, but it is generally felt that plans and specifications represent long and serious studies, and it would be absurd to imagine that more accurate knowledge would be obtained by a hurried visit of the contractor himself or a member of his staff. That is the practice, but in a legal sense all such confidence brings serious risks to those who indulge in it. "We are told," said Lord Chelmsford, "that it is the usage of contractors to rely on the specification, and not to examine it particularly for themselves. If so, it is a usage of blind confidence of the most unreasonable description." It was that confidence which was the main factor in bringing about the result of the Dublin case. And nobody who is acquainted with the course of business can doubt that similar cases are sure to follow, with consequences which will be no less unsatisfactory.

MODEL BY-LAWS.*

LAWS are evidence of the weakness and selfishness of human beings. The majority of those which are in operation are of a prohibitory kind. There would be no necessity for them if men were always disposed to act fairly towards their fellow inhabitants of the world. In the old days some legislators used to prepare a dual system of laws. One part related to the actual condition of those who were to accept it, while the other was of a more abstract kind. The spirit of the times when laws are enacted has much to do in determining the principle which inspires them. Hobbes, for instance, who lived in the time of the Commonwealth, believed that men were born into a state of war, and he could point to many contemporary laws as evidence. His theory will explain why so many enactments exist for the protection of the weak, otherwise, "Force should be right; or rather, right and wrong (between whose endless jar justice resides), should lose their names, and so should justice too."

The history of legislation in respect of houses exemplifies the theory of law which was adopted in this country. Although it was known that rules and regulations had long existed in other countries to secure safety, there was very little interference with buildings in England. It was not until it was demonstrated beyond any doubt that an Englishman's house or castle could become a nuisance and injurious to people who lived in other houses, that efforts were made to render it penal for allowing defects to exist. A man might resemble Mr. Mopes, the hermit described by Dickens, who could order people away from his premises. But when it was found he was an agent in the increase of the death-rate, then cognisance was taken of him and of his property.

It suggests, however, the inefficiency of authority and the fear of interference with individual rights when we know it was not until 1877 that the Local Government Board was courageous enough to issue a code of by-laws. It was so much of a surprise, people could not understand what was proposed, and Mr. W. A. Casson, who had charge of the legal department, Percival Gordon Smith, architect, and Sir Richard Thorne-Thorne, medical officer, were directed to produce an annotated edition. That code remained practically unaltered until little more than a year ago. Then a series was issued for the use of Rural Councils. As everyone knows, there was an outcry which was in a great measure owing to ignorance and a belief that the rights of landlords and builders were in danger. Mr. Casson allows "there is much yet to be done before a satisfactory code dealing with rural cottage building can be framed, and the present rural model of the Local Government Board can only be regarded as a sort of stopgap. It will rest with Rural Councils to evolve some modifications of that code which will make better provision for matters that ought to be dealt with." But with so much opposition around them it will be hard for Councils to uphold by-laws or prevent the triumph of the "jerry" builder.

In the new edition of the "By-laws" the latest issued from the Local Government Board are given as well as those of an allied character from other departments. Mr. Casson is not satisfied with arranging them in proper order. He gives the public the benefit of his eighteen years' experience as a Government official and as a lawyer. In that way several difficulties of interpretation are removed, and suggestions are offered which architects, as well as local authorities, will find useful in practice. Only a few of his remarks can be noticed by us.

There is often dissatisfaction at the retention of plans which have been lodged. The Public Health

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* *Knight's Annotated Model By-laws.* Comprising the Model Series of the Local Government Board under the Public Health Acts, &c. Seventh edition. Edited and revised by W. A. Casson. (London: Knight & Co.)

Act only mentions deposited plans and sections for new streets. Nothing is said about returning them. An effort was made to obtain plans from a Local Board who had disapproved of them, but Mr. Justice Mathew decided in favour of the Board. In the examination of plans it is not sufficient for the Council to accept the report of the surveyor, and to mark them as approved or disapproved. Mr. Casson says, "They are to determine, after honestly considering the matter before them, whether they would or would not approve the plans." As to the character of the plans Mr. Casson says they must be sufficient to furnish the local authority "with the necessary information to enable them to exercise an efficient supervision over the operations of the builder. The information required to be supplied under this clause may be regarded as somewhat considerable, but it is not more than is necessary in by far the larger number of new buildings that are erected." The notorious "plans" which Mr. Justice Grantham dashed off reveal that authorities on law do not realise how much information is necessary. Another kind of information has to be furnished. It may seem hard that the authorities should be informed not only of the exact date when operations are commenced, but also the date of covering up certain works. As the surveyor has powers to cut into, lay open or pull down as much work as may be necessary for him to determine its character, it is the builder's own interest to have a timely investigation. Mr. Casson's notes on the interpretation of terms suggest the variety of opinions as to what constitutes a "building." A brick-kiln and a store which were erected for temporary use while cottages were being erected were declared to be not buildings, while a timber structure resting on wheels was considered as a new building. Railway companies' premises are generally supposed to be exempt from by-laws. But this exemption does not apply to dwelling-houses for the officers or men in a company's employment. Schools are subject to the Public Health Acts, and therefore the local authorities have to approve of plans. But by a circular issued last year "minor alterations" to school buildings can be approved by the inspector on his own responsibility. The Board of Education admit that the duty is one of a delicate and difficult nature. But we suppose it is not more foreign to an inspector than an investigation of the mysteries of needlework.

It is pointed out that the Local Government Board have not included any provision for allowing walls to be constructed of steel framing, but would be prepared to consider a proviso approving this form of construction. In 1877 hollow walls were not more recognised by the by-laws than steel construction is now. They are, however, only permitted as external walls, for it is thought undesirable to permit party walls to be formed in that way. The thicknesses of walls at various heights up to 100 feet is prescribed and they are considered to be the least that can properly be regarded as sufficient to secure sufficient stability. Nine inches is the minimum thickness for external walls which will be allowed. Mr. Casson says "it is sometimes sought to relax this requirement as regards party walls, but the Local Government Board invariably refuse to allow such modifications, as a 4½-inch wall is not an adequate protection against the spread of fire." For the thickness of internal divisions there is no regulation. Cross walls are, however, to be at least two-thirds of the thickness of the external or party wall, but in no case are to be less than 9 inches. The model by-laws, strange to say, contain no provision for the construction of chimney-shafts in this land of factories.

The height of windows is of general importance, but the model by-laws do not give precise information on the subject. Clause 56 says:—"Every person who shall erect a new building shall construct in every habitable room of such building one window, at the least, opening directly into the external air, and he shall cause the total area of such window, or, if there be more than one, of the several windows, clear of the sash frames, to be equal at the least to one-tenth of the floor area of such room. Such person shall also construct every such window so that one half, at the least, may be opened, and so that the opening may extend in every case to the top of the window." Some local authorities, it appears, introduced a rule to supplement the foregoing, to the effect that the top of one of the windows shall not be less than 7 feet 6 inches from the floor, or that the top shall not be more than 1 foot below the ceiling. The law officers of the Crown, however, stated "that an Urban Sanitary Authority has no general power under the 157th section of the Public Health Act, 1875, to make by-laws regulating the height of rooms for the purpose of thereby securing improved ventilation. There may, however, be cases where reasonable regulations made with reference to the mode of ventilation would necessitate the rooms being of a certain height." Such by-laws can now be made by local authorities. It is unnecessary to say that the subjects of drainage and ventilation receive attention.

We have only referred to the by-laws which immediately relate to streets and buildings. The Local Government Board have issued many others on the subjects of cleansing, nuisances, common lodging-houses, slaughter-houses, dairies and other subjects. A knowledge of the contents of the volume is indispensable to architects, for the by-laws that are issued from Whitehall and which are reprinted in the pages are the basis of the building regulations in force throughout the country. They are carefully edited and copies are given of official and many other diagrams. Disputes often arise from the belief that local authorities and their officials are exceeding their duties. Mr. Casson's volume will be sufficient to determine whether there are departures from the ordinances of the Local Government Board. The book is so useful that a copy should be considered indispensable for every architect and builder.

CORPORATIONS AND PRIVATE ACTS.

By A Barrister.

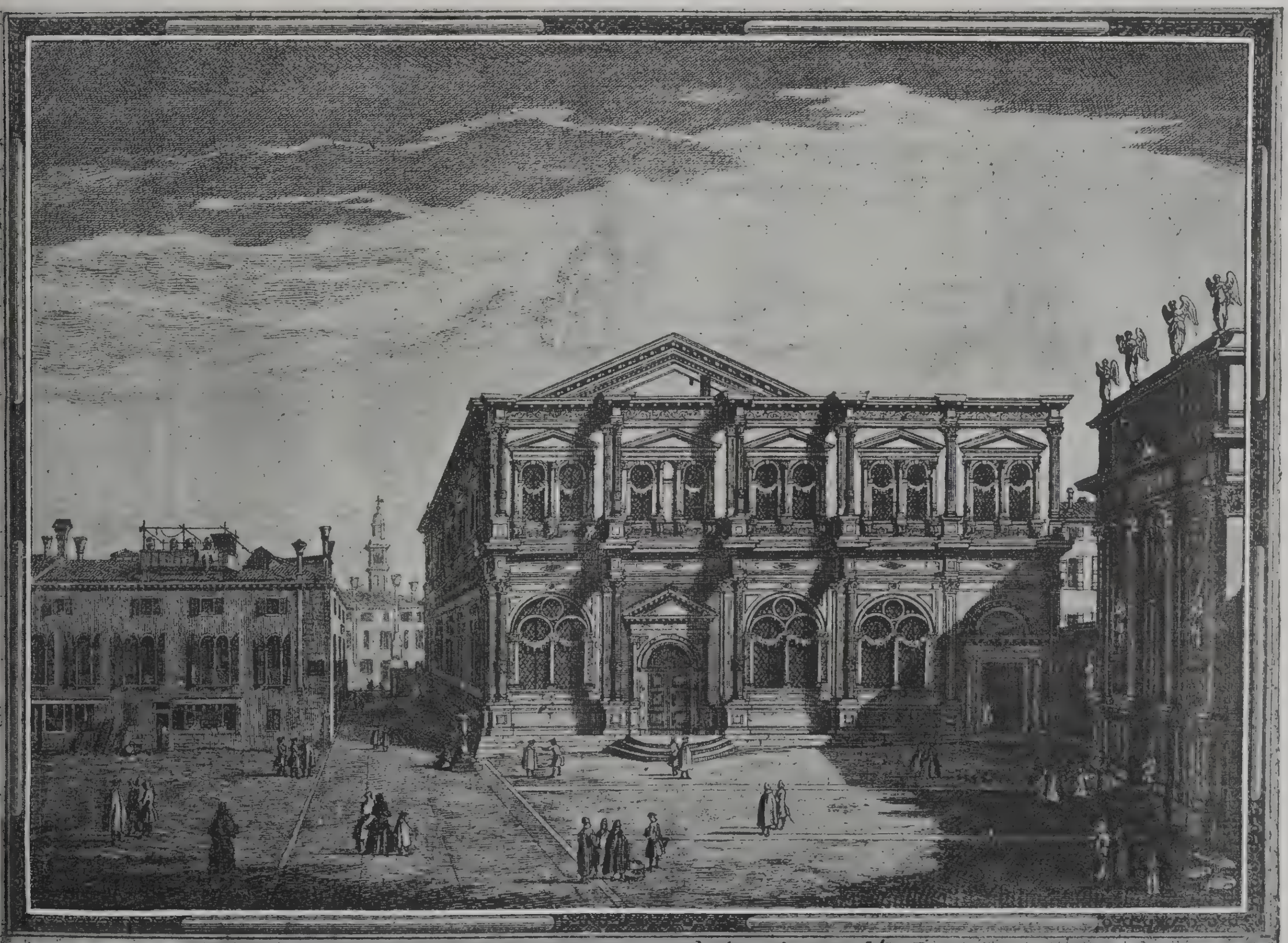
If the Legislature has given to a particular body a power to do any act, and has also given such body a discretion as to the method in which such power shall be used, no Court can interfere with that discretion, provided that it has been exercised *bona fide*. The House of Lords has had occasion to restate and apply this well-known principle in the case of the Westminster Corporation *v.* London and North-Western Railway. The appellant Corporation had, in accordance with powers vested in them by the Public Health Act, 1891, constructed at the south end of Parliament Street certain conveniences under the street. On each side of the street an entrance had been made, and a subway 10 feet wide connected the two entrances. The respondent company owned a large block of buildings fronting on Parliament Street, and owned the subsoil to the centre of the street. It was clear that the provisions of the Public Health Act which authorised the construction of these conveniences, and vested the subsoil in the Corporation for this purpose, overrode the claims of the company to interfere with such user of the subsoil. But the Court of Appeal held that, as the subway might be used as a thoroughfare and not merely as an approach to the conveniences, there had been an excessive user of the powers conferred by the Act, and they ordered the approaches thus constructed to be pulled down. The House of Lords have reversed the decision on the ground that the mode of construction was left to the discretion of the Corporation, and that the exercise of their discretion "is not open to review in an action for an injunction unless the Court is of opinion that the statutory authority is used as a cloak to screen a really unauthorised work." In giving this decision the House of Lords had some very just criticisms to make upon the mode in which the controversy had been conducted, and these criticisms are perhaps more important than the decision itself. Local authorities would do well in the ratepayers' interest to commit to memory the following words of Lord Macnaghten:—"It seems to me," he said, "that when a public body is exercising statutory powers conferred upon it for the benefit of the public it is bound to have some regard to the interest of those who may suffer for the good of the community. I do not think it is right—I am sure it is not wise—for such a body to keep its plans secret and carry them into execution without fair and frank communication with those whose interests may possibly be prejudiced or affected. I cannot help thinking that if the engineer of the Corporation and the engineer of the railway company had been put into communication some modification of plan might have been suggested which would have obviated all this litigation and expense." We may note that though the appellants succeeded in the House of Lords, they did not get their costs, because neither the negotiations nor the correspondence were as candid as they should have been.

CANALETTO'S VIEWS OF VENICE.—XVI.

In the view we publish this week it is again evident that Canaletto attached more importance to the Scuola di San Rocco than to the church. On the Continent there are several churches dedicated to the saint. He was a Frenchman, and was born towards the end of that wonderful thirteenth century which was productive of other men besides artists whose works have added to the glory of Catholicism. Travelling in his time was slow, and there were so many dangers on the road a man risked his life on a long journey. Quarantine was disregarded, and it might be said that sanitation was unknown. Some of the ancient statues of the god Æsculapius represent him as a pilgrim, for even in the heroic days of Greece travellers fell by the wayside and were in danger of wild beasts and wild birds if not of wilder men. St. Roch devoted himself to the alleviation of the miseries which abounded, and he, too, became a victim. It is sad to record that when he returned to France he was supposed to be an agent of the Destroying Angel, and he was cast into prison, where he died. Churches were erected under his patronage, and he became a stock subject for ecclesiastical sculptors. He generally appears in pilgrim's garb pointing to some of his own sores. Venice was a city in which travellers abounded, and the desire of St. Roch to help sufferers could be better understood there than in other cities.

After one of the plagues which visited the city the church was erected, and some of the greatest members of the Venetian school were glad to aid in its decoration. The building was commenced about 1494, and the body of the Saint was brought or stolen from France and placed under the high altar. His statue is by some said to be the work of Bartolommeo Bergamasco, while others ascribe it to Buono. Titian's picture of Christ dragged to execution drew forth more alms, according to Vasari, than the painter was able to earn in the course of his long life. Tintoretto painted *St. Roch before the Pope*. There are also works by Pordenone and Vivarini.

In interest the church is for visitors inferior to the Scuola di San Rocco, which appears the principal object in Canaletto's drawing. The confraternity that erected this building, as well as the church, devoted their leisure to the care of the sick and poor. They gave Tintoretto a commission to paint the whole of the



The Place, Church and School of S^t Rock.

building, and he was mainly occupied with that work for eighteen years. There was perhaps a little sharp practice on his part, if we may judge from the story which is related by Vasari:—

When Tintoretto, having painted a large painting on cloth and in oil, representing the Crucifixion of Christ, for the Scuola of San Rocco, the men of that brotherhood then determined to have some magnificent and honourable work executed on the ceiling of the apartment, proposing moreover to give the commission for the same to such of the painters then in Venice as might be expected to do it in the best manner and after the most beautiful designs. They consequently sent for Giuseppo Salviati and Federigo Zucchero, who were then in Venice, with Paolo Veronese and Jacopo Tintoretto, commanding that each of them should prepare a design, and promising that the work should be adjudged to him who acquitted himself the best. But while the other artists were giving themselves with all diligence to the preparation of their designs, Tintoretto made an exact measurement of the space for which the picture was required, and, taking a large canvas, he painted it without saying a word to anyone and with his usual celerity, putting it instantly up in the place destined to receive it. One morning, therefore, when the Brotherhood had assembled to see the designs and to determine the matter, they found that Tintoretto had entirely completed the work, nay, that he had fixed it in its place; whereupon, becoming very angry with him, and observing that they had required designs, and had not commissioned him to do the work, Tintoretto replied that this was his method of preparing designs, that he did not know how to make them in any other manner, and that all designs and models for a work should be executed in that fashion, to the end that the persons interested might see what it was intended to offer them, and might not be deceived; he added that if they did not think proper to pay for the work and remunerate him for his pains, he would make them a present of the same. At the last, therefore, though not without much opposition, he contrived so to manage matters that the picture still retains its place. The subject of this painting is the Almighty Father descending with bands of angels from heaven to embrace San Rocco; and in the lowermost part of the picture are numerous figures, to represent or signify the other principal scuolas or companies of Venice—the Carita, for example, that of San Giovanni Evangelista, the Misericordia, San Marco and San Teodoro, all which was executed after the usual manner of Tintoretto.

The painting in question is found in the hall of the confraternity, with representations of several incidents from the Saint's life. There are also scenes from the life of Christ, which are suggestive of events which happened in the wilderness and in remote places. The ceiling is adorned with a painting of the brazen serpent. The light in the scuola is not always satisfactory, and it is only by a close examination that the amazing energy of Tintoretto's work becomes evident. The Scuola of San Rocco is near the great church of the Frari, and is now one of the sights of Venice which appears on all official programmes.

WHISTLER, COURBET AND INGRES.

A LETTER to Fantin Latour from James Whistler is referred to by M. Benedite in the *Gazette des Beaux-Arts*, of which the following is a translation:—

Dear Fantin,—I have far too many things to tell you to write them all this morning, for I am in a press of work. It is the pain of giving birth. You know what that is. I have several pictures in my head and they issue with difficulty. For I must tell you that I am grown exacting and "difficile"—very different to what I was when I threw everything pell-mell on canvas, knowing that instinct and fine colour would carry me through. Ah! my dear Fantin, what an education I have given myself. Or, rather, what a fearful want of education I am conscious of. With the fine gifts I naturally possess, what a painter I should now be if, vain and satisfied with those powers, I hadn't disregarded everything else. You see I came at an unfortunate moment. Courbet and his influence were odious. The regret, rage, hatred I now feel for all that would perhaps astonish you. Here is the explanation. It isn't poor Courbet that I loath, nor even his works. I recognise, as I always did, their qualities. Nor do I lament the influence of his painting on mine. There isn't any; none will be found in my canvases. That can't be otherwise, for I am too individual and have always been rich in qualities which he hadn't and which were enough for me. But this is why all that was so bad for me. That damned realism made such a direct appeal to my vanity as a painter, and flouting all traditions, shouted with the assurance of ignorance, "Vive la nature!" "Nature," my boy—that cry was a piece of bad luck for me. . . . Oh, why wasn't I a pupil of Ingres? I don't say that in rapture before his pictures. I don't much care for them. I think a lot of his paintings that we saw together very questionable in style, not in the least Greek, as people pretend, but very viciously French. I feel there is much more to discover, much finer things to do. But, I repeat it, why wasn't I his pupil? What a master he would have been. How safely he would have led us. Drawing, by Jove! Colour. Colour is vice. Certainly it can be and has the right to be one of the finest virtues. Grasped with a strong hand controlled by her master, Drawing, Colour is a splendid bride with a husband worthy of her—her lover, but her master, too—the most magnificent mistress in the world, and the result is to be seen in all the lovely things produced from their union. . . . Well, enough. Anyway, this explains the immense amount of work I now set myself to do. I have been educating myself thus for more than a year, for a long time, and I am sure that I shall make up wasted time. But—but—what labour and pain.

ARCHITECTURAL REFINEMENTS.

IN his fourth lecture before the Edinburgh Architectural Association upon the subject of architectural refinements, on Friday, October 27, Mr. W. H. Goodyear began with a comparison of dates for the known architectural curves of antiquity. There is a gap of 700 years between the curves of Medinet Habou and those of Pæstum, but we do not on that account hesitate to derive the Greek curves from the Egyptian. There is a gap of 700 years between the curves of the Maison Carrée and those of the Parthenon, but we do not on that account hesitate to derive the Roman curves from the Greek. We know that the intervening monuments have disappeared, and we are certain that many of them would furnish connecting links if all were still in existence. There is a gap of 400 years between the curves of the Maison Carée and those of the sixth century as found in S. Sophia at Constantinople, and in S. Apollinare Nuovo at Ravenna. The gap is less than those which intervene between the curves of the ancient monuments.

The lecturer then described the curves in plan of S. Apollinare Nuovo at Ravenna, with the assistance of a survey for the cathedral of Fiesole. In the latter case the curves have a foot deflection at the pavement in the lines of the bases of the columns. They have a return bend in the choir; they are parallel on both sides of the church; they rise through the clerestory walls to the roof line. Various similar cases were quoted, but were described as being infrequent in comparison with an alignment of piers which is rectilinear.

The greater frequency of rectilinear arrangement is one among several proofs that the curves are not the result of careless laying out. Another proof is that the curves are parallel, including the return bends, as is also the case in St. Ouen at Rouen and other examples.

The lecturer then considered the suggestion that a single line of bases was laid out accidentally in a curve with return bend, and that the second line was then made to conform to the first after the error had been noted. This suggestion was met by an illustration from the ground plan of S. Pietro at Toscanella, one of a number in which the lines of piers diverge in plan from the entrance in the direction of the choir. In S. Pietro at Toscanella this divergence amounts to 5 feet, but the sceptic urges that this divergence was accidental because the builder was indifferent to regularity. How then could it be possible that the builder at Fiesole was so anxious to make his second line of bases run parallel with the first? The lecturer said that another suggestion had been made for Fiesole and similar instances, namely, that the bays were built at several different periods, and that the deflections represented deviations in direction due to recommencement of the work after a period when the work had been abandoned. The known dates in various instances, for instance in S. Apollinare Nuovo at Ravenna, were shown to make this suggestion untenable.

Illustrations were then shown of the curves in plan of the cloister of the Celestines at Bologna of the twelfth century, in which the curves rise from the foundations, and are convex to the centre of the court on all sides, with a deflection of 5 inches in 50 feet at the second storey. The analogy to the temple court of Medinet Habou quoted in the preceding lecture was pointed out. The cloister of S. Zeno at Verona was shown to have similar but more delicate curves, beginning at the foundations of the parapets. The curves in plan and curves in elevation of the Pisa Cathedral were then illustrated in detail, and the lecture closed with illustrations of the curve in plan of St. Mark's façade and of the curves in elevation in the gallery parapets of the interior. Four parapets out of a total of six were shown on the screen, and the decision as to the existence of these curves was left to the audience. The question of subsidence and defective foundations was next considered. The lecturer quoted the churches of Toscello and Murano and many other Mediæval churches of Venice, as not showing any of the numerous and remarkable phenomena of St. Mark's, although the conditions of soil and foundations were the same.

Reference was then made to the certificate attesting the constructive existence of these curves which had been furnished by Commendatore Pietro Saccardo, who was seventeen years director of the repairs of St. Mark's and forty years connected with the administration of the repairs. The lecturer further appealed to the history of the Campanile, with foundations which had supported a weight of 13,000 tons without any sort of movement, as attested by the report of the Commission on the fall of the tower. There was no evidence that the foundations of St. Mark's were less carefully constructed. They were known to consist of 9 feet of solid masonry resting on piles. As to the undulations in the interior, Mr. Goodyear pointed out that they were found in the unweighted surfaces of the pavement, which had naturally been less carefully founded, but that the undulations were not found in the lines of walls and piers, which had to be considered in connection with the curves. He further quoted the levels which had been taken in the galleries where the curves were, showing that the parapets were level when the two extremities were compared. He hardly knew of any curves in elevation outside of the Pisa Cathedral and St. Mark's, Venice. The curves in plan were more numerous.

The lecture was illustrated by a series of fine lantern slides of St. Mark's, Venice, Pisa Cathedral and other Italian churches.

THE ROMAN FORT AT NEWSTEAD.

CONSIDERABLE progress has been made during the past summer in the excavation of the Roman fort at Newstead, near Melrose, undertaken by the Society of Antiquaries of Scotland. Evidence has been obtained, says the *Scotsman*, that there have been two occupations of the site. On the south side, beneath the great rampart, which forms the leading feature of the defences, the ditch of an earlier fort was found. The black deposit in the bottom shows that it must have been open for some considerable time. Among this deposit were picked up oyster shells and a well-preserved bronze stylus. Behind the ditch holes for posts have been noted, suggesting a palisade. On the east side of the camp the older ditch runs inside the later defences. At the eastern gate, the Porta Prætoria, the arm of the ditch coming from the north is deflected outwards so as to overlap the gate, and form a protection to the roadway. The same feature occurs in the defences of the gate belonging to the second occupation. While the first and second line of ditches terminate on either side of the road crossing them at right angles, the third ditch is deflected outwards to protect the entrance, turning the roadway southward.

The old ditch has been found at the north-east corner of the fort, running towards the west, just within the secondary defences, which suggests that the earlier no less than the later fort was of unusually large extent.

In the interior the usual buildings of a military station are being traced. Some further work has been done upon the large house, bounded on the east by the Via Principalis and the main rampart on the south. The position of the corridor giving access to the rooms on one side and to the interior courtyard on the other has been defined. A curious feature of the plan is the occurrence of an apsed apartment projecting into the courtyard from the north side of the house—possibly a shrine. Immediately to the north of this house, which was probably the commandant's quarters, lies a buttressed building, the granary or storehouse of the fort. It has as yet only been outlined. The interior is still to be investigated. Further north of this building lies the Prætorium of the camp. The general plan is of the usual type found at Housesteads or Birrens—an outer courtyard surrounded by a colonnade on the north, south and east sides, an inner courtyard with a colonnade along the east side, and against the west or back wall of the building a row of small chambers. A peculiar feature of the plan is to be noted in a chamber 16 feet square occupying a position in the outer courtyard opposite the entrance. The remains of the foundations admit of the plan being traced with considerable accuracy. Many of the large squared stones which formed the bases of pillars in the colonnade are *in situ*, or, where they are missing, the foundations of river stones set in clay on which they were placed. At the north-west angle of the outer courtyard several feet of the stone gutter which caught the water from the roof above is still in its original position.

The collection of relics found during the operations continues to grow. Of peculiar interest are the objects obtained in clearing out a great pit in the outer courtyard of the Prætorium. At the surface its diameter was 20 feet. It was filled in with the débris of the building above, containing many tons of roughly-dressed stones, together with large blocks similar to those forming the colonnade bases, and one or two showing carefully-tooled decorative patterns. The first find of importance was met with at 8 feet in depth, where human remains were found, along with a beautifully patinated ring fibula and some beads—remains, no doubt, of a necklace. At 12 feet an altar made its appearance, lying face down in the black mud. Probably it stood in the shrine above, and was cast into the pit when the building was abandoned. The dedicatory inscription is clearly cut and in perfect preservation. "I.O.M. G.Arrivs Domitianvs C. LEG.XX.V.V. V.S.L.L.M. To Jupiter Optimus Maximus Gaius Arrius Domitianus, Centurion of the 20th Legion, Valeria Victrix pays his vow willingly, cheerfully and deservedly." Beneath the altar lay a brass coin of Hadrian. From the lowest depths of the pit came the heads of several oxen—the Bos longifrons—of two horses, and bones of sheep, pig and the red deer, a quantity of leather, which had evidently formed parts of garments, and a piece of red pottery with the maker's name, Probvs, stamped upon it. The most interesting discovery was made towards the bottom of the pit, which was reached at a depth of 25 feet. A well-preserved skull of a man and portions of a second skull were found; near them were the remains of an iron corselet ornamented with bronze plating, fragments of plates which protected the arms and shoulders, and upwards of 350 scales of brass, which had formed part of the armour. The wet mud had preserved the bright golden colour of the metal. Lying on the bottom were pieces of many amphoræ, some shoes, a couple of knives (one, with its handle of horn, in excellent preservation), a small bucket hooped with iron and a quern.

Another pit, situated near the east gate, yielded a further collection of bones, a spear-head and a large number of oyster and mussel shells. A number of spear-heads have been found in the trenches around the gate, all much corroded and difficult to preserve, as also specimens of the pilum and arrow-head. From the same trenches came a small intaglio, evidently once set in a ring, with a well-cut figure of Ganymede feeding an eagle. The pottery forms a collection of considerable interest and variety. Among the latest finds are the pieces of a beautiful bowl of red Samian ware, which it has been found possible to reconstruct almost in its entirety. The surface of the bowl is divided into panels. On either side of a decorative floral motive repeated four times stand figures of Victory bearing the crown and palm and of Diana with her bow and hind, while in the other panels are spirited representations of the lion and wild boar and a bird-catcher casting a net over a small bird. The bowl is of a type made in France at the end of the first or early in the second century. That such a fragile thing could find its way to Newstead is proof of the peace that reigned over the great highways of the empire.

The Hermione Lectures annually delivered in Alexandra College, Dublin, will commence on Tuesday, November 14, at 4 P.M., and will be continued on the three following days at the same hour. They will be delivered by Mr. George Clausen, A.R.A., who will treat of Leonardo, Michel Angelo, Velasquez, Gainsborough, Turner, Constable, the pre-Raphaelites, Whistler and Watts.

NOTES AND COMMENTS.

Concrete is now so widely employed for American buildings, it is desired that all doubts about its fire-resisting qualities should be removed. For that purpose various societies have resolved to make arrangements for testing the material in all its varieties. They will follow independent inquiries, but on a plan generally approved. It has been decided to begin with sand mortars, no facing being used in the manufacture of the block, which will be of a standard size—9 by 12 by 24 inches. Another series will be made of dry, medium and very wet mixture, using three grades of mortars for each condition, viz. rich, medium and lean. A series of blocks will be made under the direction of the committee of the Concrete Block Manufacturers' Association, in accordance with common practice. It is proposed to build a test oven. Three blocks of each series will be submitted to the test, two with the face towards the inside of the furnace and one with the back of the block facing the inside of the furnace. The blocks are to be laid in lime mortar, and four three-inch diameter Bunsen burner jets with a firebrick baffle will be used for heating the furnace. It is proposed to raise, at a uniform rate, the temperature of the test oven to a temperature of 1,800 deg. Fahr. during a period of an hour and a half, and maintain this temperature for half an hour. It is then proposed to turn two streams of water of 20 lbs. pressure at the nozzle against the inner walls of the test chamber from points diagonally opposite each other for a period of five minutes. At the conclusion of the fire test, wherever possible, it is intended to make a determination of the strength and other properties of the block.

Although Schiller, the poet, stopped at Dresden more than once, it is remarkable that in the city there is no memorial of him. In 1859 a model of a statue was set up by some enterprising sculptor, but no commission was given for its execution in marble or bronze. This is the more remarkable because statues of the poet are to be seen in the public places of Weimar, Berlin, Munich, Mannheim, Maine, Frankfort, Hanover, Marbach, Salzburg, Ludwigsburg, Vienna, and there are also busts and statuettes in public buildings. An effort is now being made to remove what seems like a stigma from Dresden, and on Monday an address was delivered on the subject by one of Schiller's descendants. It is proposed to raise a sum of 100,000 marks in order to erect a memorial which will be worthy of the subject. Towards that amount about 16,000 marks have been subscribed, one-fourth of which comes from school children. The interest appears to be so general in the city, there seems little doubt that the money required will be quickly obtained.

The first ordinary meeting of the one hundred and fifty-second session of the Society of Arts will be held on Wednesday next, the 15th inst., when Sir Owen Roberts will deliver an inaugural address. For ordinary meetings previous to Christmas the following arrangements have been made:—F. Martin-Duncan, "The Cinematograph and its Applications;" Sir William H. Preece, "The British Association in South Africa;" Sigmund Stein, "The Manufacture of Sugar from British Grown Beet;" W. F. Mitchell, "Industrial Japan;" Charles L. Burdick, "The Aerograph Method of Distributing Colour." A meeting of the Applied Art Section will be read on December 12, when Mr. Louis N. Parker will read a paper on "Historical Pageants." After Christmas the following papers will be read at the ordinary meetings:—G. S. C. Swinton, "London Traffic;" Raoul Pictet, "The Preparation of Oxygen from Liquid Air;" J. B. Millet, "Submarine Signalling;" James N. Shoolbred, "The Supply of Electricity;" J. Nisbet, "The Planting of Waste Lands for Profit;" Lucien Wolf, "Industrial Russia;" Claude Johnson, "The Horseless Carriage, 1885-1905." Cantor Lectures will be delivered as follows:—J. A. Fleming, "The Measurement of High-frequency Currents and Electric Waves;" Sir William White, "The Modern Warship;" Professor Vivian B. Lewes, "Fire: Fire Risks and Fire Extinction;" Alfred Maskell, "Ivory;" George W. Eve, "Heraldry in relation to the Applied Arts."

The annual report of the Leeds and Yorkshire Architectural Society states that the total membership on April 30, 1905, was 174, namely, 32 honorary members, 73 members and 69 Associates, as against a membership of 155 at the date of the last report, showing an increase of 19. The Council record with deep regret the decease of Mr. Francis W. Bedford, who was for some years a zealous member and hon. secretary of the Society. At a general meeting of the Society a sincere vote of condolence with his widow was passed, and this, together with the sending of a wreath, was acknowledged by Mrs. Bedford. The death of an hon. member, Mr. S. Atkinson, is also regretfully noted. The best thanks of the Society are offered to Mr. Bulmer and Mr. Butler Wilson for the time and means expended in promoting the Society's interests. On August 8 a letter was forwarded to the clerk to the Leeds Union, pressing upon the attention of his Board the claims of architects practising in the city to a share of architectural work promoted by the Leeds Union. A reply was received to the effect that the Board would bear in mind the Society's communication. The treasurer reported there was a balance in hand of *4l.* 9*s.* 8*d.* The prize-winners were as follows:—Silver medal and President's prize of *5l.* 5*s.* for measured drawings, W. Whitehead. Construction, W. P. Rylatt. Essay, W. P. Rylatt. Sketching—1. W. Whitehead and W. J. Freeman; 2. W. J. Greaves. Design—1. W. P. Rylatt; 2. W. Whitehead. Halden prize, G. H. Foggett.

It is to be hoped that the new regulations in France with regard to ecclesiastics will not cause the old cathedrals and churches to suffer. Officials no doubt believe that the former system of treating the clergy has been overcome, and they may also consider that it would be well to remove as many traces as possible of Mediævalism. From the reports in the French journals it would appear that the cathedral of Chartres is now subjected to operations which, if they do not impart to it the character of the twentieth century, will at least render it impossible for enthusiasts to enjoy the building to the extent that was possible some years ago. To put it shortly, it might be supposed that Government officials are endeavouring to make the descriptions in M. Huysmans's "La Cathédrale" no longer applicable. Old mansions which were used by the clergy are to be removed. The desire is to make the cathedral stand apart as if it were a statue to a politician. The stained glass has been douched, as if the figures were all on fire, and with such force that the harmonising of the colours has been destroyed in some parts. Some scientific officers have preferred to operate on the glass in Paris laboratories, and parcels have been sent there regardless of all the risks. In other words, art and poetry have had their day at Chartres, and now it is contemplated to let science have its way, not only with doctrines, but with painting, sculpture and architecture.

ILLUSTRATIONS.

CATHEDRAL SERIES.—WAKEFIELD: VIEW FROM NORTH TRANSEPT ACROSS SANCTUARY TO SOUTH TRANSEPT.

PERSPECTIVE VIEW OF YORK CITY AND COUNTY BANK, MIDDLESBROUGH.

ST. AUGUSTINE'S PAROCHIAL HALL, BRIGHTON ROAD, CROYDON.

A CHURCH FOR LABOUR PARISH, WITH SCHOOL AND MEETING ROOMS.

HOSPITAL CHAPEL AT BROMPTON.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE first meeting of the seventy-first session of the Royal Institute of British Architects was held on Ionday evening last at Conduit Street, W., Mr. John Belcher, A.R.A., president, in the chair.

Mr. Alexander Graham (hon. secretary) said it was his nelancholy duty at that, the opening meeting of a hopeful session, to bring before the meeting the names of members vho had passed away since the last gathering. There had een a long interval since that meeting on June 19 last, and e regretted to say that the gaps in their ranks during hat time had been considerable. The names of those deeased members demanded more than passing comment. The first name on the list was Alfred Waterhouse, who ied on August 22 after a distinguished career full of honour o himself. He was the recipient of many tokens of respect nd admiration for his work both as an artist and in other natters. His charm of manner never seemed to fail him. His great kindness and generosity to those who were ssociated with him in his daily work endeared him to all. His constant kindness to members of the Institute who sought is advice in many matters connected with the building arts vas only equalled by his lifelong loyalty to the Institute, its ims, aspirations and operations. To show their appreciation f the deceased's work and valuable services in architecture, Ir. Graham formally proposed that a letter of sympathy nd condolence should be sent to Mrs. Waterhouse and amily. They had lost a good man and great friend n Alfred Waterhouse, and he appealed to members to old the name in pleasant memory. There was another ame equally familiar to members; he referred to that of Charles Forster Hayward, who died on July 5. Their conection with him was perhaps more associated with his uties as district surveyor. He had, however, rendered ood service to the Institute during his long and active areer. In proposing a vote of condolence with the relatives f the deceased members, the following names were inluded:—Charles Henry Howell, Associate 1848, Fellow 861; Joseph Wood, Fellow 1902; Thomas Edward Knightey, Associate 1856, Fellow 1860; James Weir, Associate 874, Fellow 1882; Charles Grayson Maylard, Associate 874; Henry George Luff, Associate 1864, Fellow 1901; harles Lucas, hon. corresponding member, of Paris; Lord Iontagu of Beaulieu, elected hon. Associate 1878; Johan ouis Ussing, of Copenhagen, hon. corresponding member; nd the Conte Giuseppe Sacconi, of Rome, hon. correspondg member, elected 1887.

The Secretary announced that at the last Institute Statury Examinations eighteen candidates were examined, and e following passed and have been granted by the Council ertificates of competency to act as district surveyors under e London Building Act:—Messrs. Albert Anthony Fillary, dgar Walsh Knight, Edwin Palser, Harry T. Boden pencer, and A. L. Woodward. The following candidate has een granted a certificate of competency to act as building rveyor under local authorities:—Mr. W. John Stainton.

The President's Address.

The confidence and goodwill of my brother architects— which I am indebted for this second opportunity of ldressing you at the opening of a new session—is a urce of no small encouragement to me, in view of the fficulties likely to attend upon my position as President ring the period upon which we are now entering. I am ry grateful for the courtesy and consideration which have en so generously extended to me on all hands, for the lp and support of the members of Council, and for the er-ready assistance of our secretary, Mr. Locke, and the neral staff, to whose patience and zeal in the official and rical work of the Institute we owe more than its members nerally are perhaps aware of. The general appreciation the President's "At Homes" has been so plainly evinced that I am proposing to continue these pleasant unions during the coming session. The readiness with ich our friends the painters and sculptors have responded our invitation has added greatly to the popularity of the At Homes," which have, I hope, served the good purpose drawing us all more closely together.

Looking back upon the year that is past I may, without r of contradiction, report to you a great advance in the sition of this Institute, in its influence and power, and y with equal confidence prognosticate a still greater vance in the coming year, owing to the special circumnces of the time. Our numbers have gone up very much, ing partly no doubt to the determination of the Institute close its doors against all who have not passed a qualifying examination. Our losses have been numerous too, many of the elder men, whose labours in the past have done so much to make the Institute what it is, having passed from among us.

The latest loss we have to deplore is that of our distinguished former president, Mr. Alfred Waterhouse, R.A., veritably one of the giants of our days. This is not the occasion for me to dilate upon Mr. Waterhouse's marvellous powers of work, as the vast buildings which remain testify thereto. But it may fairly be claimed for him that he developed a phase of art—consistently followed to the last—as peculiarly his own as that of the Brothers Adam was characteristic of them in another direction. Entering upon his career just when the tide of Gothic revival was at the flood, he held his youthful bark on a course distinctly his own, making the strong-reaching currents of the time subserve the needs of modern Domestic architecture. To his practical and orderly mind the regular and symmetrical Classical plan commended itself as no other did, and it was on this that he won his first competition, the Manchester Assize Courts. The history of his life will assuredly be found to be fruitful both in instruction and encouragement for those who love their art. Sympathetic letters have been received at the Institute from continental architects and others, testifying to the great esteem in which he was held abroad as well as in England.

The public works to which I referred in my address a year ago are rapidly approaching completion, and in the City the Old Bailey buildings are progressing well. The pulling down of a large portion of the Regent Street Quadrant has been the occasion of considerable anxiety, the more so because buildings recently erected on other Crown property near by exhibit a total disregard for their surroundings, and, indeed, for any general scheme such as that devised by Nash, to which Regent Street owes its peculiar character and value. The present officials, however, recognising the mistake made in the past, have determined to use their powers to retain a uniform treatment of the Quadrant at least. The need for such uniform treatment was so strongly felt by architects that had it not become known that Mr. Norman Shaw had been engaged upon a design of a façade for all the buildings in the Quadrant there would, I feel sure, have been a general outcry. I have reason to believe now that, thanks to the wisdom of the authorities and the compliance of the County Council, to whose architect we owe much in respect of such portions as are under their control, there will be achieved a memorable work and a noble termination to Regent Street worthy of a great city. The proposed new Wesleyan Hall in Westminster gave rise to an important competition, for which many fine designs were submitted. The choice of the assessors in the end fell upon Messrs. Lanchester & Rickards, but there were others who ran these gentlemen very close. The design of Messrs. Cross & Mallows in particular presented many delightful features. Cardiff, where again Messrs. Lanchester & Rickards are very much in evidence, claims a good deal of our attention at the present time. Its town hall and law courts promise to be amongst the most successful buildings of our day. Simple in plan, convenient in arrangement, fine in scale, decorated with just the proper amount of ornament, they will combine with the new University buildings by Mr. Caröe, the library and museum by Mr. Seward, and a small but excellent building by Mr. Wills, to form a remarkable group—situated in beautiful park-like grounds—of which Cardiff may well be proud. By the far-seeing liberality of the authorities, the architects of the municipal buildings have been enabled to avail themselves of the assistance of some of our best sculptors in giving force and expression to the buildings.

I must pass over many other important works which are either in course of erection or in contemplation to speak of a matter which touches us very closely—the question, viz. of a new official home for this Institute. Owing to the increase of official work, the growth of the library and the need of more space for the exhibition of students' drawings and the display of our many treasures, the premises which we now occupy are daily proving more inadequate to the demands made upon them, and, as they cannot be extended, we have been compelled to look elsewhere. After many fruitless inquiries and attempts, the Council are now prepared to recommend the acquisition of a fine freehold site which has been found in Portland Place.

I need scarcely say that this important matter has been most carefully considered—by a special committee of past Presidents, as well as by the Council and the finance committee—both in respect of the expediency of such a step and in respect of ways and means. The proposals adopted will be laid before you immediately. I must confess I shall be highly gratified if, when the International Congress assembles next year, I am able to point out the site referred to as marking the future home of this Institute. There is another matter which touches us closely, or ought to. Having increased in numbers and prosperity, the Institute is called to face increasing responsibility towards those (both members and others) who from no fault of their own may have need of help. Ours is a precarious and ever-shifting profession, with some fat years, perhaps, but many lean ones. It is hard when some who have done good and well-known work suddenly find themselves stranded by unforeseen troubles or unusual circumstances. Gentlemen, I am distressed to inform you that the small amount of the subscriptions to the Architectural Benevolent Society is totally inadequate to meet the deserving cases which should be relieved. It should be understood that the cases dealt with are scattered throughout the country, and they have increased, but the subscriptions have not. I feel sure that I have only to remind all newly elected members and others who have not yet subscribed to this deserving cause, and they will do so at once, so that funds may be in the hands of the committee who, I assure you, spare no pains in their loyal efforts to relieve their distressed comrades.

The policy of the Institute continues to be directed towards the training and advancement of its members and the benefit of the community at large. Every assistance has been rendered to public bodies who have sought for information or advice, and it is now the almost universal custom to request your President to nominate an assessor in competitions. In such competitions I note that the regulations issued by the Institute are generally adopted; but it would be greatly to the advantage of all parties concerned if, whenever it is proposed to introduce a variation or insert a special clause, such variation or special clause were first supervised by the assessor. The latter is bound to insist upon the conditions laid down, and any vagueness or uncertainty in technical details—often to the lay mind of no seeming importance—is apt to prove exceedingly unfair to competitors. It is of great importance also that public bodies, while reserving to themselves the right of confirming the assessor's decision, should be very slow to override or pass it by. Only a man of considerable practical experience and training in architectural work can lay his finger upon the impracticability or carefully-masked faults which mar the designs of so large a proportion of competitors; and to think that it is sufficient for a layman or any body of laymen to know "what they like," to use an expression often heard in such matters, is almost to set a premium upon work which is showy but intrinsically bad. It is the duty of this Institute to lead the way in discerning and approving all that is good and pure in architecture and to recognise, and so far as possible reward, those qualities which insure the best results.

The want of discrimination shown in some official and other circles, particularly in the provinces, lends much force and point to the demand for the registration of architects as being one way at least of counteracting the injustice so often done to competent men. The committee appointed by the general body to consider the principle of registration has now reported, and gone so far as to suggest a form of Bill in Parliament. There is, however, considerable diversity of opinion still, and it is scarcely possible that the Bill should pass into law. Yet some remedy must be found for the present evils; we cannot be indifferent to the interests of the many able men upon whom existing conditions press so hard. Your new registration committee has therefore already appointed a sub-committee to examine impartially into the whole question. This committee, which is composed of men holding diverse, even opposite, views, is to receive and consider the evidence of those, whether members of the Institute or not, who may be either in favour of or opposed to compulsory registration, or who have suggestions of any kind which may help the committee to formulate a scheme which they can recommend. And any of the members in the provinces who may wish to offer suggestions or furnish evidence should communicate with the secretary as soon as possible. This should not occupy any great length of time, but what is done must be thorough, and we must arrive at a final solution of the question. Should the committee find it desirable to promote a Bill in Parliament, we must not risk failure or court defeat by presenting one which, owing to the opposition it arouses, has no chance of passing.

The coming year will mark an epoch in the history of this Institute, for at its close only those who hav qualified for the ranks of the associates will be elected t full membership. Ample provision will be made for th needs of those who thus seek to qualify, and all the neces sary educational facilities will be complete.

The Institute intends to take up the question of educa tion on the basis laid down by the Board of Education an to give it its full support, and I am glad to be able t announce that this being so I have received an intimatio from some twelve well-known architects that they ar willing to join the Institute and work with us in advancin by every means in their power this most important questio of architectural education. The new Board of Architectura Education formed for this purpose has, after long delibera tion, issued a report which has been approved by th Council and by all the educational bodies interested. Th aims and methods proposed for adoption were admirabl set out at one of our meetings by Mr. Reginald Blomfiel A.R.A., one of the hon. secretaries. The Board is consti tuted on a very broad basis, its advisory members, fo instance, including representatives of the Royal Academy the Universities of Oxford, Cambridge and Londo the Board of Education, the London County Counci University College, King's College, the Universities o Liverpool and Manchester, University College, Cardiff, th Architectural Association Day School and the architectura schools of important centres in the country. All thes have consented to the proposed scheme, and the co ordination of the work in the several schools is agreed upor The importance of the advance thus accomplished ca hardly be overstated. A certain definite standard and righ method of architectural training being thus established, i follows that in due course the Board's certificate will form very valuable asset in the portfolio of the rising architec However desirable it may be that the style and title o architect should be limited to duly qualified men, it doe not seem possible for us to do more at present than under take to certify that the men who pass through the Board' curriculum and obtain the certificate are acquainted wit the essentials of our art and possess certain definite quali fications. The test thus imposed will be a valuable one not only in the interests of the public, but also of th students themselves. The latter for the most part recog nise their obligation to fit themselves for their work, bu the natural impatience or perhaps conceit of youth lead some to think that for them at any rate there may be short cut to success and fame, forgetting the old adage "There is no royal road to learning." Then the questio arises, Ought not those who have submitted to an arduou course of training and passed severe tests to be distin guished in some special manner? And this is nov under consideration. In future those who possess certificate of the Board of Education will certainl be exempted from some of the Institute examina tions, though the final examination for membershi and that probably in a modified form, may be reserved and we may, I think, be sure that the growing power o this Institute as the representative body will bring to it members, according to their grade, whether Fellow o Associate, not only increasing *kudos*, but an ever large share of the greatest and best work that may be called fo in our art.

The education of the public in the elementary principle of architecture claims our attention at the present time. know that this idea is regarded by some as utopian, but a any rate there is abundant evidence that people generall take more interest in the subject than they used to. recently published handbook by Martin Buckmaster, thoug too archæological in character, is yet evidence of a deman for information and instruction of a popular rather tha technical character. A committee was appointed last Sessio to consider whether anything could be done in this directio and they came to the conclusion that certain proposals lai before them were not only practicable but capable o an extensive application. A "standard work" issued b the Institute, and directed not so much to the training of th professional student as to furnish information which migl with advantage form a part of every educated person intellectual equipment, would prove of use, not only to th public generally, but also to school teachers and othe interested in education. The question—"The Education o the Public"—together with that of a diploma for architect and the best methods to be adopted in the laying-out o cities, will engage the attention of the International Co gress which is to meet in London in the third week of Jul in next year. This will be the seventh such congress, an

first held in London. On previous occasions, for the
st part, the Congress has been aided by a State subven-
, for foreign Governments are alive to the importance
ich events from the point of view of the national interests.
system of government not allowing of such support,
are thrown back, for the success of the Congress, almost
rely on our own enterprise and *esprit de corps*. An
iest appeal is therefore made to all members of the pro-
ion in this country to lend a generous aid in this matter,
so much by special donations—though the executive
mittee are by no means too proud to accept them—as
enrolling themselves members of the Congress, whether
see their way to taking part in it personally or not.
ie profession generally give the committee their support,
committee will see to it that the Congress is not merely a
ess, but not in anywise inferior in dignity and interest
ny that have preceded it. Other countries have heartily
comed and hospitably entertained the delegates sent
hem, and we must be no less generous in the recep-
of our foreign *confrères*, the delegates and others who
to honour us with their presence. The Institute is
ributing 500*l.*; the balance, a pretty heavy one, must
supplied by subscription. A series of visits and
ertainments is being arranged, and the committee are
wing up what they hope will prove a very attractive pro-
nme. When the time comes helpers will be welcomed.
articular the committee are anxious to enlist the services
ny members of the Institute who may be conversant
one or more foreign languages. Three or four gentle-
have already promised their services. We are looking
vard to this Congress as an opportunity of ventilating
ly interesting questions, and of learning something of
principles and practice adopted in other lands. We
st, however, in comparing foreign methods with our
, take into account the patronage that the State in so
ly cases extends to the arts, and to architecture especially,
oad. Hitherto, as I have before pointed out, foreigners
e taken but little account of our native architecture. It
nly of late years, with increasing facilities of travel and,
ay add, the improved relations with other countries
ch our gracious King and patron has done so much to
er, that discovery is being made of the many magnifi-
buildings scattered over the British Isles, many of
n possessing a distinction and character not found else-
re.

n the sphere of Domestic architecture particularly we
boast of much that excels anything else of the sort in
ope. From the mansion of the wealthy landowner
ated in its own park to the homely cottage of the village
urer or artisan standing in a well-kept garden, often
len behind the trim hedge of some picturesque lane,
rural landscape possesses a beauty and interest that
iot be surpassed. The atmosphere of peaceful repose
vhich our country towns and villages so often seem
be bathed—the effect of that reticence and love
seclusion which mark our countrymen—is a sur-
e, indeed, a revelation, to those who have only
life under other conditions, and possesses irre-
ble charms and attractions for many who visit us
other lands. We ourselves have not shown due
eciation of these beauties of our native land. Not only
we, as a nation, fond of travel, but we are wont to extol
ything that is foreign and depreciate everything that is
own. Foreigners, naturally enough, have taken us at
own valuation. It has been so in every department of
Not until a man's work has been approved and com-
ded by other nations is he recognised here as worthy
ly honour. I anticipate that the International Congress
go far to open the eyes of the public to much in their
land that they have not hitherto valued at its true
th. Let us make every effort to welcome our colleagues
tily and to do them all the honour we can, and thus
ribute to draw closer the bonds of international esteem
friendship which knit us to them.

make no apology for bringing before you once again
question of our street architecture in its hygienic aspect.
appearance of our public thoroughfares is commonly
rded as a mere matter of taste, and is not believed to
any bearing upon the health or morals of the people.
ly address last year I laid before you reasons for think-
otherwise, and I again press the matter upon your
ition, because the proposals laid before Parliament by
Traffic Commission will, if adopted, afford a splendid
rtunity for the application of better principles than
hitherto prevailed in this respect. The formation of
main avenues and the widening of important thoroughfares to provide greater facilities for locomotion and transport imply new building frontages. Let the façades which are thus to be in the public eye, as it were, for many long years to come, be under proper control from the very first. The owners of land bordering on a public thoroughfare ought not to be at liberty to indulge an ill-regulated fancy for what is bad and false in architecture or vulgar and showy in appearance. Let there be a control set upon private caprice, that our street architecture may be marked by that restraint, that unobtrusive simplicity, the result of serious and dignified thought, which may tend to produce like thought in the minds of those who look upon it. The formation and widening of main arteries in great cities has another aspect. The work no doubt is primarily undertaken to provide for the ever-increasing demands of the traffic; but incidentally it assists materially in bringing a proper air supply to the crowded centre. The extension of the tramway system is driving from the suburbs many of the wealthier classes who in the past have resided in suburban houses standing in many acres of land. These grounds are now being acquired by the speculating builder, who is busy running up small houses crowded together into the minimum space permitted by the Building Act. Thus the supply of air to the central parts is being blocked in every direction by a zone of overbuilt suburbs, and the danger in case of an epidemic of a malignant character is increased most seriously. In some countries—for instance, Germany and the United States—State interference has been invoked to regulate the "extension of cities," and I am glad to note that the authorities are seriously considering the advisability of similar legislation in respect of the suburbs of London. The attention of the public has been somewhat diverted from this larger subject to what is relatively a minor detail, viz. the character of the small villa residences referred to; but the interest taken in the so-called "garden cities" is evidence of an awakening to the importance of a graduated increase of air-space in proportion as the buildings recede from the centre of the city. As Sir James Crichton-Browne said at the Sanitary Congress, "it is desirable that we should obtain control of the builder, and prevent the indefinite and unguided growth of the suburbs. We should then construct great leafy avenues, fine broad thoroughfares, stretching away into the immense ocean of beautiful air in the country." The laying-out of such avenues and thoroughfares is not entirely and solely a matter for the engineer and borough surveyor. The architect, and in certain cases the painter and sculptor, might with great public advantage be called in to collaborate with them. It is not the best way in such a matter to take an Ordnance map and rule a straight line from one point to another. Yet such is in essence the course frequently adopted; and should any important building or object of interest come in the way, the engineer's motto is too often like George Stephenson's in respect of the cow that somebody suggested might trespass on his new railway. "So much the worse for the coo," he is reported to have said.

There is a great deal more to be determined in connection with a new thoroughfare than the most direct route, the necessary gradients, the sanitary and hygienic requirements, &c.; there are artistic possibilities to be taken, as it were, into the public service, such as the opening up of suitable vistas, the bringing into prominence or the screening of existing buildings, the slight turning from the straight line to heighten the effect, or provide places for carriages to stand out of the line of traffic. These and other expedients which have been adopted in some foreign cities with admirable results—as pointed out recently by Mr. John W. Simpson in his interesting paper on the laying-out of cities—all fall within the proper function of the architect. So also, I venture to think, do the methods to be adopted in crossing squares and open spaces, and devices for lessening the points of collision from cross traffic, to which he referred.

With reference to divergence from the straight line, I may point out that though the method of straight lines and uniform buildings possesses many merits, and should be rigorously insisted on wherever a dignified approach is demanded, or stately and official requirements render it obviously advisable, yet to be effective this style of treatment must be limited and kept within due proportion to the purpose. Otherwise it ceases to be impressive. Mere repetition spells monotony, and a long straight street is appalling to the pedestrian, so that a break in the line of axis, such as a square or open space, is welcomed as a relief. It is often possible to introduce such features into a scheme with admirable effect and without breaking the line of route. These are some of the special considerations which would naturally be referred to the architect when associated with the engineer in the laying-out of new streets.

The authorities need to be awakened to the fact that these matters have a commercial aspect which appeals to the practical mind. Art pays when properly handled: not anything and everything that is labelled art; not the art which vaunts itself, but rather that which is concealed—the art which influences, controls and satisfies by its sense of fitness; the art which, for instance, concentrates effects or subordinates parts in their relation to the whole, which seizes opportunities, or even difficulties, and turns them to effective account. In such wise can art bring enhanced value to schemes which would otherwise be merely utilitarian, and blank utilitarianism is apt to be disfigured by a brutal directness which is repulsive, or a bare and naked plight which is vulgar.

In the absence of a Minister of Fine Art with duly qualified advisers an Art Commission similar to that which has been established in New York has been suggested. The Commission referred to has jurisdiction over all designs of municipal buildings, bridges, approaches, gates, fences, lamps, the lines, grades and plotting of public ways and grounds, arches, structures and approaches and other similar matters. It must be admitted that such powers as are here indicated can only safely be placed in the best and most capable hands; for, alas! what frauds, if not crimes, are perpetrated in the name of art.

False art has made many mistrust all art, and caused them to shut their eyes to the real value and influence of that which is genuine.

I believe, however, there is a better time coming. It is noteworthy as one passes through the country what an increasingly large proportion of the smaller class of houses have evidently been designed by architects. The builder is discovering that an architect's design is not an expensive and unnecessary luxury, but that the initial outlay is more than repaid if not in the actual building of the house—and this often happens—at any rate in the improved letting which results.

I cannot help remarking too upon the advantage which accrues to the architect himself in the process of studying and designing small houses. It certainly is not very remunerative work, but it has its compensating rewards. Any real advance must no doubt begin in small things before there can be a true appreciation of greater work. As the true qualities of architecture should be equally seen in small as in large buildings, they may perhaps be more easily grasped and understood by way of the less complicated problems.

Increasing knowledge will add to the number of those who appreciate and desire good work, and their sensitiveness in matters of taste will incite the producers to higher efforts, so that by action and reaction our native art will approach a higher level. Let us seek not merely to fan the growing interest in our art, but also to awaken a clear perception of its true qualities. It will not be long, I venture to prophesy, before public opinion will declare itself definitely and decidedly, insisting upon grace and refinement both in our public buildings and our important thoroughfares. Given such an opportunity, we may feel confident that our national architecture will not fail under the test, but will reflect the highest and noblest qualities of our race.

Sir JOHN THORNYCROFT, in proposing a vote of thanks to the President for his address, said that as a naval architect he was under some disadvantage in speaking before such a meeting. He felt that the architect had great responsibility in his professional work, and they were indebted to him for their comfort; but he must not make his houses too comfortable, or people would not get out of doors. But while the architect of their houses on land added to their personal comfort, it was sometimes said that the temporary abode on the sea made by naval architects added greatly to the people's discomfort. He was glad to learn from the address that roadways were within the province of the architect, though he (the speaker) felt that in his building operations the architect encroached sometimes on what should be the thoroughfare. There were many typical examples in London, though now the authorities were widening the roads. If they were to have handsome buildings in their cities it was essential that there should be space to set them off. Then, too, the tendency to overcrowd streets with buildings was detrimental to health and increased the risks of danger from fires.

Sir A. RUCKER seconded the motion, and said he cou bear personal testimony to the fact that every detail of th scheme of education for architects had been considere fully and thoroughly by the Institute. He sincerely hope that in time the scheme might come to be regarded as th course through which the architect must go. He was gla to find a great technical Institute in London taking suc interest in matters of education, for he was one of thos who believed that the broad lines of technical educatio should be laid down by the great masters of the arts tha were brought into relation with it.

LIVERPOOL ARCHITECTURAL SOCIETY.

On Monday at a meeting of the Liverpool Architectura Society Mr. A. Needham Wilson read a paper o "Sketch Plans and Working Drawings." He warned youn members of the architectural profession against the temptation to overdo idealism and to ignore the constructiona problems that arose even in the simplest buildings. Th art of draughtsmanship had made great progress during th last twenty years, and it was advisable to keep this development within reasonable limits. They must breed architects not draughtsmen merely, and must not neglect the study o their art for the sake of the drawing of it. Two forces— the artistic and the technical—were at present operating and to a certain extent on conflicting lines. He did no know whether they were doing much to harmonise thes forces. As a body he thought they ought to take a greate interest in the training of workmen, and to see to it that th effort for technical instruction was turned into the righ direction. In domestic and ecclesiastical work the architectural profession was in many instances producing wor second to none in the world in its variety and robustness but they had failed somewhat in their public buildings Our railway stations were a disgrace to civilisation. Mr Wilson criticised the tricky methods adopted by certai architects in regard to sketch plans and working drawings and adversely alluded to the false glamour which was give on paper and disappeared when the work was executed.

ORNAMENTATION OF STEEL.

At a meeting of the Society of Engineers held at the Royal United Service Institution, Whitehall, o Monday evening, November 6, Mr. N. J. West, president in the chair, a paper was read on "The metallic preservation and ornamentation of iron and steel surfaces," by Mr. Sherard Cowper-Coles, Assoc. M.Inst.C.E., M.I.M.E. M.I.E.E., of which the following is an abstract :—

The author first referred to the theory of protective metallic coatings for iron and steel, and gave examples o corrosion caused by two metals being in contact in the presence of moisture. He then described the process o hot galvanising, or dipping in molten zinc, and some specia forms of apparatus employed for the galvanising of sheets and wire. The next process described was electro-zincing or cold galvanising, which consists of electro-depositing zinc from aqueous solutions. A regenerative process was then described, and particulars were given of the way in which zinc-dust is employed to regenerate the electrolyte and how the voltage between the electrodes is reduced by employing compound anode and cathode bars. Particulars of cost of plant and working the process were also given.

The greater portion of the paper was devoted to a new process of dry galvanising or "Sherardising" discovered by the author. A remarkable feature of this process is that iron and steel can be coated with metallic zinc by merely bedding it in zinc-dust in a drum, placing it in a furnace and raising the zinc to a temperature several hundred degrees below the melting-point of that metal. Zinc-dust consists of small particles of zinc coated with a film of oxide, and is produced by zinc distillation processes and must not be confused with zinc oxide.

When the drum has been charged with the articles to be treated and zinc-dust, it is placed in the furnace, which is heated to 500 deg. or 600 deg. F., which is some 200 deg below the melting-point of zinc, the thickness of zinc coating being dependent on time and temperature. On opening the drum the articles are found to be covered with a silvery coating of zinc which has become alloyed or amalgamated with the iron surface. The process of dry galvanising is found to be cheaper than hot or electro-galvanising as there is no waste of material, whilst the expenditure of fuel is l and the plant simple and inexpensive. Particulars given of the plant employed, and a favourable com- son was made of the zinc coating obtained by the new ess as against the zinc coating obtained by the hot and processes.

n interesting description was given of the application e process for inlaying and ornamenting metals. The les to be inlayed are coated with a stopping-off com- ion, those portions where the metal is to be inlayed onlayed being removed. They are then packed in an box containing the metal to be inlayed in a finely led state and heated in a stove. Very pleasing effects shown to be obtained with steel plates by inlaying with zinc, the steel being coated with magnetic oxide h renders it rustless. A copper-plate can be inlayed zinc, the thickness of the stopping-off composition so adjusted that a considerable portion of the copper nverted into a golden coloured brass, thus giving a soft and pleasing effect with great subtlety of colour. may also be obtained on a plain background. By ing the preliminary treatment and varying the length oving it is possible to act upon the metal plate so as to n, instead of the copper, beautiful colour effects vary- from silver-white to yellow brasses and bronzes of us shades, graduating to red copper. Amongst other cations the process has been found useful for case- ening copper and coating aluminium previous to ro-plating and soldering. A number of specimens exhibited showing the application of the process to lasses of iron to render it non-corrosive. The process nd specially suitable for coating bolts and nuts, as the is evenly distributed so that the threads do not require ting.

LIVERPOOL CATHEDRAL.

the kind permission of Mr. J. Alderson Smith, says Mr. S. H. Pritchard, I have been enabled to pay al visits to the Cathedral site and make some observa- which may be of interest to your general readers, but especially to those who are interested in the geology e neighbourhood. Our present study of the rocks ath this city can, with a few exceptions, only be made es when excavations are being carried on, and then often no practical benefit is derivable therefrom se of the limited extent and also the short time such ations usually occupy. The strata which are at pre- exposed on the Cathedral site, however, present several res of great importance to the geologist. The expo- is rendered doubly interesting by the fact that in the tery adjoining the site several natural rock exposures . Hence the student of geology is enabled to form mprehensive view of the rocks of the vicinity. yellow sandstone which is to form the natural lation of the new Cathedral belongs to the division of the Keuper sandstone, and is about eet thick at this locality. The character of the tone is very varied, passing from the millet seed y through every gradation to a very fine grained rock, n places exhibiting crystallised quartz grains. The nting agent is chiefly iron oxide, to which also the w and red colours are due. Some excellent examples ss bedding are to be seen in some of the sections. een the Cathedral site and the eastern extremity of mes's Cemetery two faults occur which run approxi- y north and south, but unfortunately neither of these can at present be seen. In the cemetery the junction red marls (which attain a thickness of about 70 feet) he upper sandstone is plainly to be seen, and quite tly the marl has yielded specimens of ripple marks in pittings, together with well-defined casts of estheria ndoubted remains of equisitites.

e locality is of great historic interest and many will rprised to know that what now forms the ceme- and Mount was the principal sandstone quarry verpool upwards of 200 years ago. The Mount then known as Quarry Hill. The main portion r town hall and several Liverpool churches were with stone obtained from this quarry, as was St. John's Church, which was demolished a few ago, but in this case the stone seems to have been sen, for previous to the demolition the church was in mbling condition, although it had only been built in ear 1780. Let us hope that our new Cathedral will the test of time a little better than this. Judging he appearance of the stone which is now being used I should say it would, but whether our expectations will be realised the future alone will show.

In conclusion, I trust that this all too brief description of the natural features of the locality which will soon be adorned by a most noble edifice will convince readers that after all a study of the rocks can be made both interesting and instructive, and I can assure them that the Cathedral will lose none of its beauty, even though they seek to know something about the rocks on which it is to rest. If, when the Cathedral is finished, they feel proud of the architect who could invent such a design, let them not forget the greater Architect whose glorious design is made manifest even in the rocks themselves, and compared to which all human works must be considered as very insignificant.

AN ARCHITECTS' BUSINESS ASSOCIATION.

AMONG the architectural associations of the United States, probably the most unique is the Chicago Architects' Business Association. Some ten years ago the architects of the city concluded that there were a number of vexing problems that affected the welfare of the profession and which were of a nature that could not be advantageously cared for by the chapter of the Institute. It was decided, therefore, says the *Inland Architect*, to form a Society to take up these questions which leaned toward the business side of architecture, and the Chicago Architects' Business Association was organised. That there was reason for its being is shown by the fact that for a decade it has constantly gained in strength and influence. It was the chief instrument in obtaining the passage of the architects' license law of Illinois. It has achieved many reforms in the conduct of the city building department and in the relation of architects to contractors, and has been largely instrumental in the revision of the building laws.

Early in its career the Association made a thorough investigation of the city building department and found, as was expected, an utter lack of competency among the heads of the department, and, to say the least, very lax methods prevailing throughout. There was no check upon the kind of building that might be erected by any owner who had influence with the department. So flagrant was this condition that there was no market for buildings that rigidly conformed to the building laws. They could not compete in price with the buildings of cheap construction, glossed over to present a fair appearance, erected by owners who were allowed to evade every building law in the code with impunity. These abuses the Business Association undertook to reform. They employed an inspector to visit questionable jobs and to report fully upon violations of the building ordinance. These violations were systematically reported to the building department, but were usually defended or entirely ignored. The Association thereupon took up the subject with the aldermen and mayor and forced the issue so strongly that an investigation of the department was made which resulted in ousting the building commissioner responsible for the violations. The department was reorganised and has shown a great improvement. Special permits are now of rare occurrence, and when issued are thoroughly investigated by the Association, which usually succeeds in having them revoked. Much attention has been given to a revision of the building ordinances and the dominating influence of the Association has been shown in this direction. So careful and systematic has been the work in this connection that the Association's printed records of the building laws and code are more accurate than those of the city itself.

Many differences between architects as a class and building associations have been adjusted. The Business Association maintains an arbitration committee of seven members who are frequently called upon to settle disputes and whose findings are accepted as final. A handbook is issued annually which contains the building and lien laws, papers read before the Association during the year, besides much general information on building subjects, tables, &c. This annual is a source of considerable profit, as is the building contract form, adapted to local needs, prepared by the Association. Without these sources of revenue the Association would be hampered in its work, much of which involves considerable expense. The initiation fee and dues are so low as to be favourable to the large membership that is desirable. Any licensed architect o the city is admitted to full active membership. No similar

Association exists elsewhere, but the success achieved by the Chicago Architects' Business Association is such that the architects of other cities may well consider the advisability of organising along the same lines for the accomplishment of similar objects.

WINCHESTER CATHEDRAL.

THE Dean and Chapter have now received full and careful reports from Mr. J. B. Colson, their architectural surveyor, Mr. T. G. Jackson, R.A., and Mr. Francis Fox, the eminent engineer, and they feel that the time has come to make known the danger which threatens one of the grandest and most historic cathedrals in England, and the methods by which it is hoped to secure its safety. The mischief is most serious in the south wall of the presbytery and is of long standing. During at least 400 years there has been from time to time a settlement of the east portion of the building, and the movement has been of late more marked. This is attributable partly to the insufficient buttressing of the vaulting, partly to the untrustworthy foundation—a bed of soft marl, only 10 feet below the surface, permanently washed by water, which in wet seasons rises some feet above it. The wall has been already securely shored, and Mr. Jackson advises that as soon as it has been made solid by bonding and grouting and the spread of the vaulting arrested, the buttresses should be underpinned on a solid stratum of gravel which has been found at a depth of 16 feet. In other portions of the fabric there is a progressive subsidence little less alarming. The east wall of the south transept will also have to be underpinned on the gravel-bed, and the vaulting at the east end of the crypt is in a dangerous condition. It is now supported by shores, and the central column must be underpinned.

Unhappily this is not all. Though the danger caused by the subsidence is so urgent that it must be grappled with at once, there are other portions of the fabric which are seriously out of repair and must be taken in hand in the near future. The roof of the nave was thoroughly restored eight years ago at a cost of 13,000*l*., but the roof of the north aisle and a part of the roof of the south aisle require re-leading, and the spires and pinnacles of the west front are in a dilapidated, if not dangerous, condition. All this is in the truest sense work not of "restoration," but of preservation. It is impossible to form at present any accurate estimate of what the cost will be. It will probably amount to 20,000*l*., and a yet larger sum may be required. There is no fabric fund; the revenues are greatly reduced, and since the expenses of maintenance remain much the same, the deficiency has to be met out of the incomes of the Dean and Canons. Consequently, in an emergency such as has now arisen they have no option but to appeal to the nation for help in securing the safety of what is a national possession—a church which contains the bones of our Saxon kings, and in wealth of historical association and architectural beauty is almost without a rival. Contributions, which may be spread over two years, will be gratefully acknowledged either by the Dean or by the hon. treasurer, Mr. Fred Bowker, jun., Southgate Street, Winchester.

INSTITUTION OF CIVIL ENGINEERS.

ON Tuesday the opening meeting of the session of the Institution was held, when Sir Alexander Binnie, president, delivered his address. He said that civil engineering in this country only dated back to the eighteenth century. In studying the industrial development of England one was struck by the fact that in earlier days we were deeply indebted to foreigners for almost all the arts of life. Our country, however, soon distinguished itself in the domain of civil engineering. The illiterate Brindley constructed the canals which laid the foundation of inland navigation. Smeaton, a man of the highest intellect, engaged in almost every class of engineering work; his reports and the papers he presented to the Royal Society were an epitome of the knowledge of the eighteenth century. A contemporary of Smeaton was James Watt. As an instance of the backward state of mechanical science in those days, it was on record that when Watt laid before Boulton and Smeaton his proposals for the construction of the steam-engine Smeaton expressed doubts whether the work could be executed in this country with the necessary accuracy. So great, indeed, was our indebtedness to other nations that until Cort's puddling invention was brought into use towards the end of eighteenth century the British Navy was restricted to use of iron imported from Russia. The first Society Civil Engineers in England was formed about the year 17 and still existed under the name of the Smeatonian Soci of Civil Engineers. With that first Association John Renn who built Waterloo Bridge and was engaged in the c struction of the London Docks, was intimately connect One of those who largely assisted in the foundation of present Institution was Thomas Telford, who at one tir worked as a stonemason for ordinary wages during t building of Somerset House, and afterwards became the gr bridge-builder of his age. The charter of the Institut was obtained in 1828, and no more striking illustration the great development of civil engineering since that d could be given than by a comparison of Telford's note-bo and Molesworth's pocket-book. Summarising the histo of the science, it might be said that, as the period bef 1832 was the age of road-making, canal engineering a the beginning of docks and harbours, so the period whi had since elapsed was essentially the railway epo Coincident with the growth of railways had been t advance in electrical science and the development sanitary and marine engineering. It might be fai claimed that during the Victorian era the resources science had been applied to the needs of mankind to greater extent than in any other age. Looking ahead, t investigations of recent years into the laws which govern the constitution of matter, both on the chemical and physi side, were gradually forming in our minds new conceptio as to the structure of all inorganic bodies. He thought might look for developments in the future as much u suspected as was present-day knowledge by the scientis of the eighteenth century. If in the coming years t Institution of Civil Engineers was to hold the high positi to which it aspired, it would only be by unity of purpo by an endeavour to raise the standard of professio qualification, and by making the Institution a place whe men connected with all branches of engineering could fi a common home and a common ground of work. intimately co-related were the laws of nature with t various divisions of civil engineering that it becar impossible to divide them into distinct and separa departments.

Sir William Preece moved, and Mr. Charles Hawksl seconded, a vote of thanks to the President.

NEW LAW COURTS IN ROME.

NOW that the masons have finished their work on t new Palace of Justice, it seems an appropria moment, says the correspondent of the *Morning Post*, give some account of the vast mass of corridors and cou which has been slowly growing up in the Italian capital.

The history of the building goes back as far as 188 when a competition was opened for the best design. No of the plans sent in were considered suitable, and a seco competition was held two years later, in which Sign Calderini was successful, and in 1889 the actual buildi began. It had been fixed in the law of 1885 that, "exclusi of bas-reliefs, statues and frescoes, the cost of the wo should be approximately 320,000*l*." As a matter of fa Signor Calderini's accepted estimate for the whole wo was 1,080,000*l*., and even that enormous sum has be quite inadequate. The whole of it had been spent by la year, when the Giolitti Cabinet applied to Parliament for supplementary estimate of 236,000*l*., to be spread over t four years 1904 to 1908, by which time—a quarter of century from its inception—it is hoped that the buildi will be finished. Thus, from first to last, the Palace Justice will have cost the nation 1,316,000*l*.

That this sum might have been expended to mu greater advantage on remunerative public works is obviou and many Italians feel, too, that it is an anomaly to spe such a huge sum on the building in which justice is to administered, and yet to pay some of the magistrates w administer it the miserable pittance of 72*l*. a year. B the modern like the ancient Romans have a love of bric and mortar, and they are apt to estimate the progress their country by the size and cost of its new buildings.

Certainly the new Palace of Justice occupies a co manding position. Situated on the right bank of the Tib exactly opposite the new Ponte Umberto I., it is so co spicuous an object that it has quite dwarfed the castle Sant' Angelo. As one crosses the bridge and enters t tyard four seated statues are seen, representing ius, Julianus, Modestinus and Gaius, while behind , beside the doorway of the building, stand the figures cero and Papinian ; above, along the front of the palace, een medallions contain portraits of Beccaria, Bartolo, o and other great jurists of more modern times ; over loorway is Justice, enthroned between Law and Force. ve this group two stone wolves, nourishing Romulus Remus, personify the legendary foster-mother of the ans. All round the building runs a frieze of bulls' ls, with here and there a lion's head above the frieze, e inside there are eagles in plenty.

here is an inner court, also adorned with four sitting es, those of Hortensius the Orator, Paulus Julius, an and Labeo, and above these will be placed the sal statue of the Law. On the ground floor are three e courts and four other tribunals, but there is an ense waste of space in corridors, passages and court- s, and the result has been to make the actual courts ly small. One great advantage, however, which the an courts will possess is in the admirable lighting and ventilation and heating arrangements. A fine double case ascends to the first floor, on which are situated the rt of Appeal and the Corte di Cassazione, while on the nd floor are a large library (one of six scattered about palace) and six civil courts. From the balconies of this the views are magnificent. Three kinds of stone have used for the building, that of Brescia for the staircases that of Tivoli and Civita Vecchia for the outside work.

f the interior decorations it is too early to judge, for painting of the frescoes is only just beginning. But the ression which is made by the outside of the palace is favourable. Compared with the Palais de Justice at sels it lacks distinction. Much of the ornamentation es one as inartistic. The result is disproportionate to vast cost, and the building is generally regarded as ng nothing to the architectural beauties of Rome. For- tely nothing was destroyed in order that it might rise. hat respect it differs greatly from the monument of or Emmanuel II.

EVON AND EXETER ARCHITECTURAL SOCIETY.

HE session of the Devon and Exeter Architectural Society was opened with an address on "Edwardian and Architecture" by the president, Mr. B. Priestley es, of Plymouth.

le said that the houses of the period were generally of e extent and of great magnificence, and testified to the ith and prosperity of their owners. The general ngement principally consisted of a hall, sometimes pying the whole height of the house, and not unfre- tly having a low ground storey under it. The wings commonly of two storeys. The outbuildings were rranged as to form a complete quadrangle, and usually whole was surrounded by a moat. The hall was the cipal apartment of the house. Opposite the screens the music gallery over was the daïs, or "high borde," he lord and his principal guests. Down the hall in front ranged the boards on trestles and the benches for re- ers and those of inferior degree generally. No carpet red the floor, but it was strewn with sweet rush, nder and sweet plants. The lower part of the walls wainscotted in that quaint, simple design which was to een over and over again in the Domestic architecture of Middle Ages. The wall behind the daïs was generally with Arras tapestry, representing within its em- dered border some famous incident in chivalry, the of the fair ladies of the house. The banquets of the od were pageants, and descriptions of them read in the s of history like passages from fairy tales. These rtainments were sometimes kept up until a late hour, were followed by masques and minstrelsy. The platters usually of pewter and in houses of a second class of d. The display of plate was often extensive and in- ed the increase of national wealth. Silver dishes, and salt-cellars wrought in curious devices glis- d upon the board, and the taste displayed in manufacture of these articles of plate was some- s both chaste and elegant. There were in exist- some of the choicest specimens of workman- ranging through the Mediæval period, which sufficiently fied that in the working of metals the ingenuity and of the artisans of bygone days were far from being contemptible. The nobles prided themselves upon their gold and silver vessels, and made many sacrifices to obtain them. The exchequer might be empty, but they dined off gold and silver. Our forefathers had always an eye to the "disport" of the hall, and even in the furniture of the table grotesque forms were much in vogue as auxiliaries to mirth. The huge salt-cellar was the chief ornament of the board. It was usually of silver, and the cunning craftsmanship of the silversmith was exerted to render it ornamental and grotesque. At supper the table was adorned with candlesticks of artistic design. In the houses of the nobles they were sometimes of silver. They were usually with spikes, upon which the candles were stuck. Tallow candles were in common use in this century, and their manufacture had become an important branch of commerce. The solar was another very important apartment, the use of which corresponded to some extent to the withdrawing-room of modern times. It was the private apartment of the lord and his family, to which he and his guests retired from the high table after the feast was over. It was generally situated behind the daïs. Perhaps one of the most striking features in this room was the window. The recesses were of a fair size, and usually built as in the preceding century, with the masonry left so as to form stone benches on each side. These were the favourite nooks and corners of domestic life, and the votaries of chess haunted these pleasant old-fashioned retreats. It was here, too, that "my lady" and her fair damsels brought their spinning and "broidery," and wrought those marvellous fabrics for which in Mediæval times their needles acquired a European fame. The lecturer concluded by saying that provisions, furniture and clothing were usually purchased at the Fairs, which were the only places where the gossips might pick up a little information from the strolling minstrel—always a welcome guest as much for his gossip as his song—for these were the news-carriers of the age, and many a message of love and business was entrusted to their keeping.

A vote of thanks to Mr. Shires was proposed by Mr. O. Ralling, seconded by Mr. Harbottle Reed, and carried.

TESSERÆ.

Horace Walpole on English Architecture.

WHEN, in 1769, James Essex, of Cambridge, undertook a history of Gothic architecture, he applied for information to Horace Walpole. He did not think the learning of Essex completely adequate to the task, but gave him a rough outline of what was considered desirable. He wrote :—"With regard to a history of Gothic architecture, and in which Mr. Essex desires my advice, the plan, I think, should lie in a very simple compass. Was I to execute it, it should be thus. I would give a series of plates, even from the conclusion of Saxon architecture, beginning with the round Roman arch, and going on to show how the Saxons plastered and zigzagged it, and then how better ornaments crept in, till the beautiful Gothic arrived at its perfection ; then how it deceased in Henry VIII.'s reign, Archbishop Warham's tomb at Canterbury being, I believe, the last example of the unbastardised Gothic. A very few plates more would demonstrate its change, though Holbein embroidered it with some morsels of true architecture ; in Queen Elizabeth's reign there was scarce any architecture at all—I mean no pillars, or seldom, buildings then becoming quite plain. Under James a barbarous composition succeeded. A single plate of something of Inigo Jones, in his heaviest and worst style should terminate the work, for he soon stepped into the true and perfect Grecian. The next part should consist of observations on the art, proportions and methods of building, and the reasons observed by the Gothic architects for what they did. This would show what great men they were and how they raised such aerial and stupendous masses, though unassisted by half the lights now enjoyed by their successors. The prices and the wages of workmen, and the comparative value of money and provisions at the several periods, should be stated as far as it is possible to get materials. In the last part the chronologic period of each building should be ascertained ; and not only of each building, but of each tomb that may be exhibited, for the great delicacy and richness of Gothic ornaments was exhausted on small chapels, oratories and tombs. For my own part, I should wish to add detached samples of the various patterns of ornaments, which would not be a great many, as excepting pinnacles there is scarce one which does not branch from the trefoil, quatrefoils, cinquefoils, &c., being but various modifications of it. I believe almost all the ramifications of windows are so, and of them there should be samples too."

The Prose of Gothic.

Viollet-le-Duc calls an old cathedral a kind of sacred forum, where matters of interest to the community were discussed. The high towers were built, not so much to direct men's eyes heavenwards as to enable watchmen to see afar, and to signal conflagrations, storms and the approach of enemies. The bell which called men to their religious duties called them also to arms, or to meetings of their fellow-citizens. It has been often said that Gothic or Pointed architecture probably sprang from the habitual employment of wood in the structures of the Gauls. Augustin Thierry held that opinion. Describing the edifice upon the ramparts of Rouen in which Brunehaut and Mérovée took refuge from the pursuit of Chilperic, he says:—"It was one of the wooden basilicas then common throughout Gaul, in which a soaring style of construction was in use, pillars and pilasters formed of several trunks of trees bound together, and arcades necessarily taking the Pointed form from the difficulty of shaping an arch in such materials; and it gave, in all probability, the original prototype of that Gothic vaulted style which, several centuries later, became so general in great architectural works." This explanation has not been in any way absolutely proved, but there is nothing in it difficult to reconcile with that of Viollet-le-Duc, who sees in the final selection of the low-crowned arch the result of a series of tentative experiments to which the architects of the Middle Ages were condemned before they could discover the form of vault which should unite the two advantages of solidity and the greatest possible absence of thrust.

Style in Painting.

The so-called "styles" of artists are either adaptations to imperfections of material, or indications of imperfection in their own power, or the knowledge of their day. The great painters are like each other in their strength and diverse only in weakness. The last is true even with respect to the dispositions which induce the preference of particular characters in the subject. Perfect art perceives and reflects the whole of nature; imperfect art is fastidious and impertinently prefers and rejects. The foible of Correggio is grace, and of Mantegna precision; Veronese is narrow in his gaiety, Tintoret in his gloom, and Turner in his light. But, if we know our weakness, it becomes our strength; and the joy of every painter, by which he is made narrow, is also the gift by which he is made delightful, so long as he is modest in the thought of his distinction from others, and no less severe in the indulgence than careful in the cultivation of his proper instincts. Recognising his place as but one quaintly-veined pebble in the various pavement—one richly-fused fragment in the vitrail of life—he will find in his distinctness his glory and his use; but destroys himself in demanding that all men should stand within his compass or see through his colour.

GENERAL.

M. Isidore Verheyden, director of Brussels Royal Academy, died last week at the age of fifty-nine. M. Verheyden was famous both as a landscape and a portrait-painter, and his pictures in the Musée Moderne at Brussels are well known.

The Will of Francis Gustavus Nicolls, aged 46, of Longnor Hall, Leebotwood, Shrewsbury, civil engineer, has been proved at 84,245*l.* gross.

The King's Norton education committee have decided that competitive designs should be invited for the provision of a permanent school of three departments, to accommodate 1,200 scholars, on the Raddle Barn Lane site, and that, as soon as the result of such competition has been made known and the plans approved by the Board of Education, permission be granted to the education committee to invite tenders for the erection of the portion of the school intended to accommodate infant scholars.

A Sub-Committee of the Glasgow Corporation recommend that a sum of 300*l.* should be added to the gift of a similar amount by an anonymous donor for the purchase of sculpture, provided works of sufficient merit are forthc
and that their selection is left in the hands of th
committee.

Mr. William Glover, architect, writing to the Ma
Newcastle-on-Tyne, says:—"I am pleased to hear tha
feel my gift to the Laing Art Gallery will influence
and sincerely hope that this result will be accompl
I have pleasure in enclosing Bank of England notes
value of 800*l.*—500*l.* to carry out my promise and 3
addition for the same object, in memory of my value
esteemed clients in the three counties. I hope to hav
pleasure of seeing the first work of art purchased."

The Hull City Architect has been instructed to
as to the practicability of the suggestion that an art g
should be erected over the shops at the west end
public hall which is being erected in the heart of the
Mr. T. R. Ferens, J.P., has offered to contribute 1,000*l.*
for five years for the purchase of suitable works of a

The London Chamber of Commerce expended 1,6
opposing the London Building Acts (Amendment)
1905, in the interests of owners and occupiers of bu
property in London. Of this sum their members guara
1,259*l.*, and the balance is now being subscribed.

The Bishop of Winchester, in preaching at Com
where a new chancel, nave and vestry were recently a
said no one could have looked upon that exquisite g
Norman architecture without a feeling of reverenc
those early architects who in a rude and violent age ha
only kept architecture alive, but bravely led it on st
step, from beauty to beauty, and from grace to grace
the genius of consecrated art seemed to outstrip
standard of refinement.

A Fine Late Norman Capital of a column found i
excavations for premises building near the Square at
chester has been presented to the city museum. The
reliefs of seated saints, two on each face, beneath a No
arcade, are good examples of late Norman carving,
there are two or three similar "caps" in the museum.

The Annual Report of the Leeds and Yorkshire A
tectural Society states that in January 1905 the Co
wrote to the improvements committee of the Leeds
Council offering the Society's assistance and advice re
ing the improvement line on the east side of Cook
Street. This offer was most courteously welcomed by
committee, with the result that they are at present
sidering alternative schemes laid before them by
Society.

Mr. C. F. Bell, M.A., of Trinity College, assi
keeper of the Ashmolean Museum, has been elected t
ordinary Fellowship at Magdalen College under the cla
of the statute authorising the special election of Fel
qualified by their attainments in literature, science or
Mr. Bell, who is a nephew of Sir Edward Poynter, P.
has undertaken, as a condition of holding his Fellow
to pursue his studies with a view to making a catalogu
the Renaissance objects in the Ashmolean collections.

The Chelsea Borough Council have adopted a re
mendation inviting the London County Council to unde
as soon as possible, as a metropolitan improvement,
extension of the Chelsea Embankment from its pre
termination at Battersea Bridge to the Cremorne A
public-house. In connection with this matter Mr. W
Caröe, of Cheyne Walk, has intimated that any propos
continue the embankment will be again strenuously opp
by the local residents.

The Herts County Council have fixed the maximum sa
of Mr. U. A. Smith, the county surveyor, at 1,600*l.*
annum, upon the understanding that he devotes the w
of his time to the duties of the office, that he be no lo
allowed to give evidence or in any way act on behal
private clients, and that he be not permitted to hav
office in London or at any other place than at Hatfield.

The Royal Sanitary Institute will hold a discussion
the 14th inst. on "Rural Housing: the Constructio
Healthy and Cheap Cottages—the Exhibition at Le
worth." It will be opened by Dr. J. F. J. Sykes and
T. W. Aldwinckle.

A Paper on "Waterways in Great Britain" will
read at the meeting of the Institution of Civil Engineer
Tuesday next.

Sir Archibald Geikie, late director of the Geolog
Survey, will deliver a public lecture at the Sedgw
Museum on Tuesday, November 21, at 5 o'clock,
"The Evolution of a Landscape."

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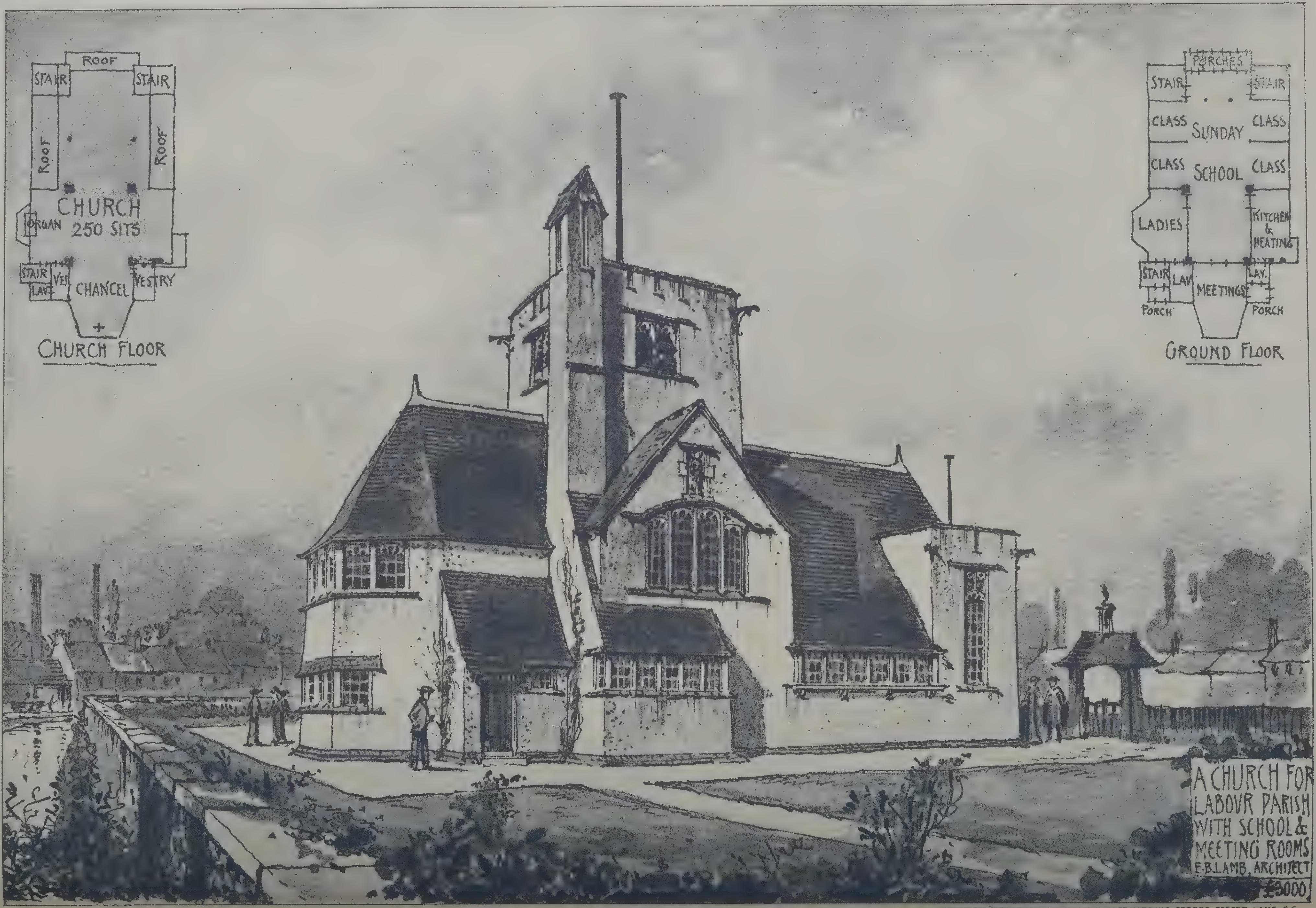

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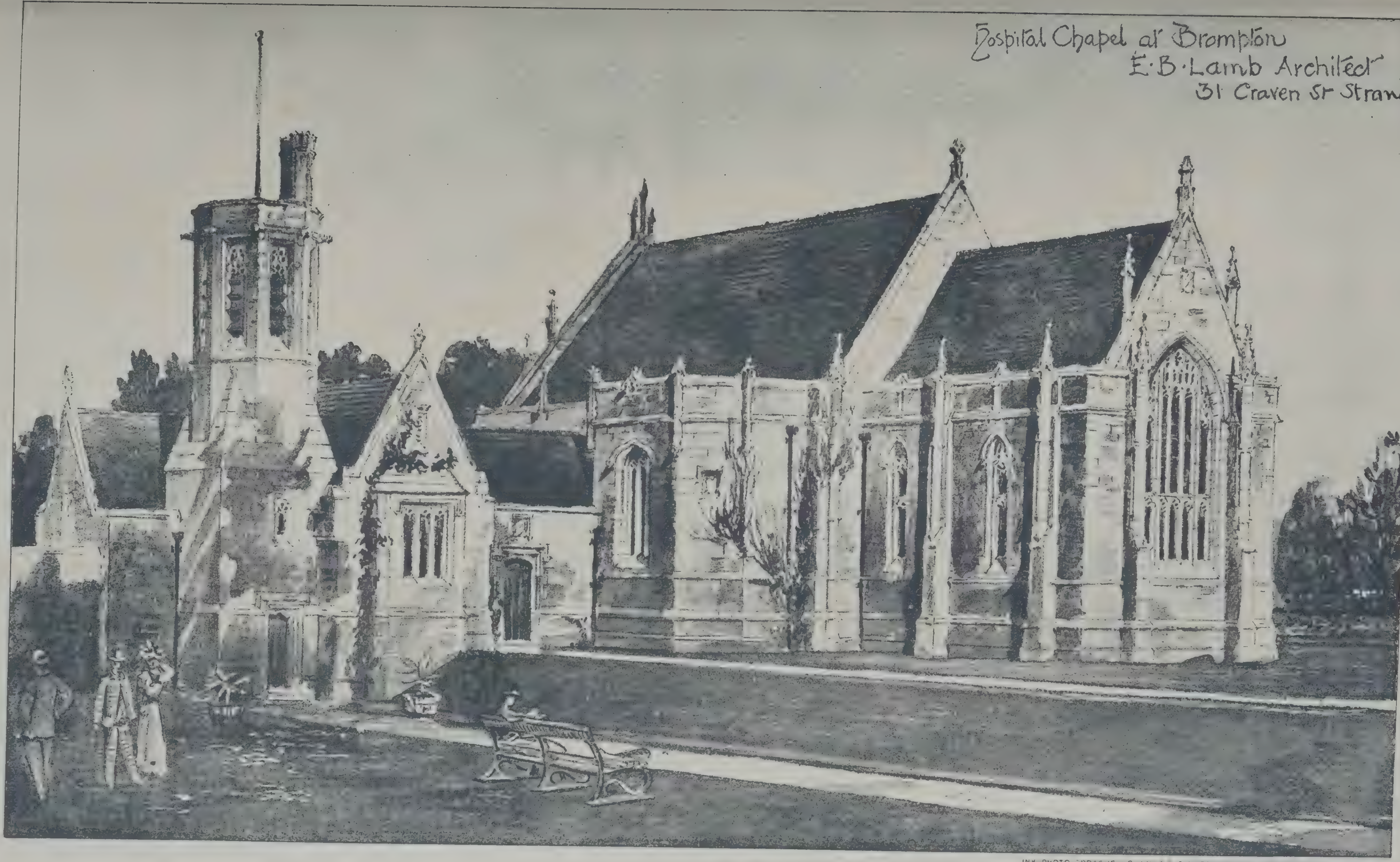

Hospital Chapel at Brompton
E·B·Lamb Architect
31 Craven St Strand

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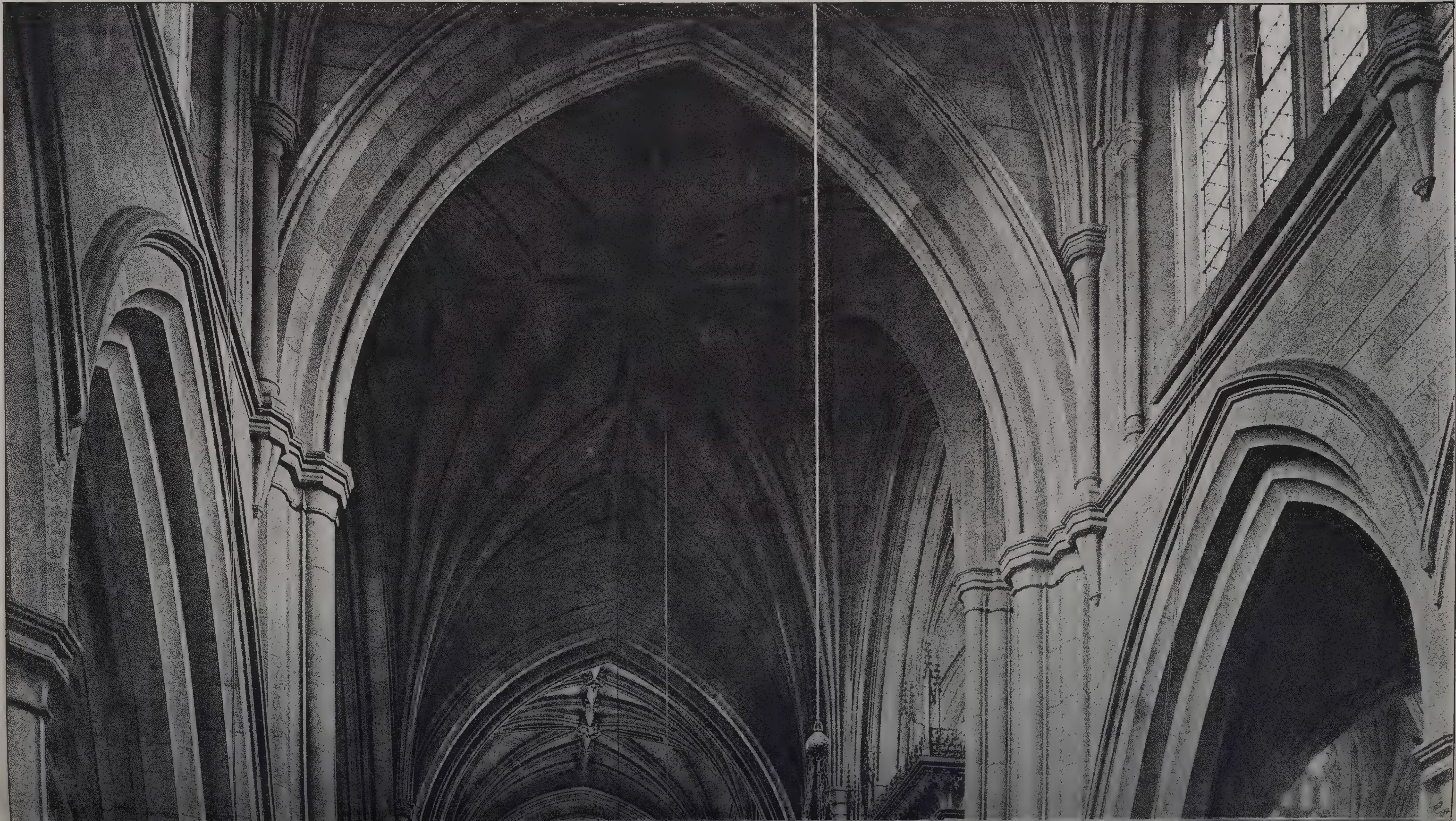

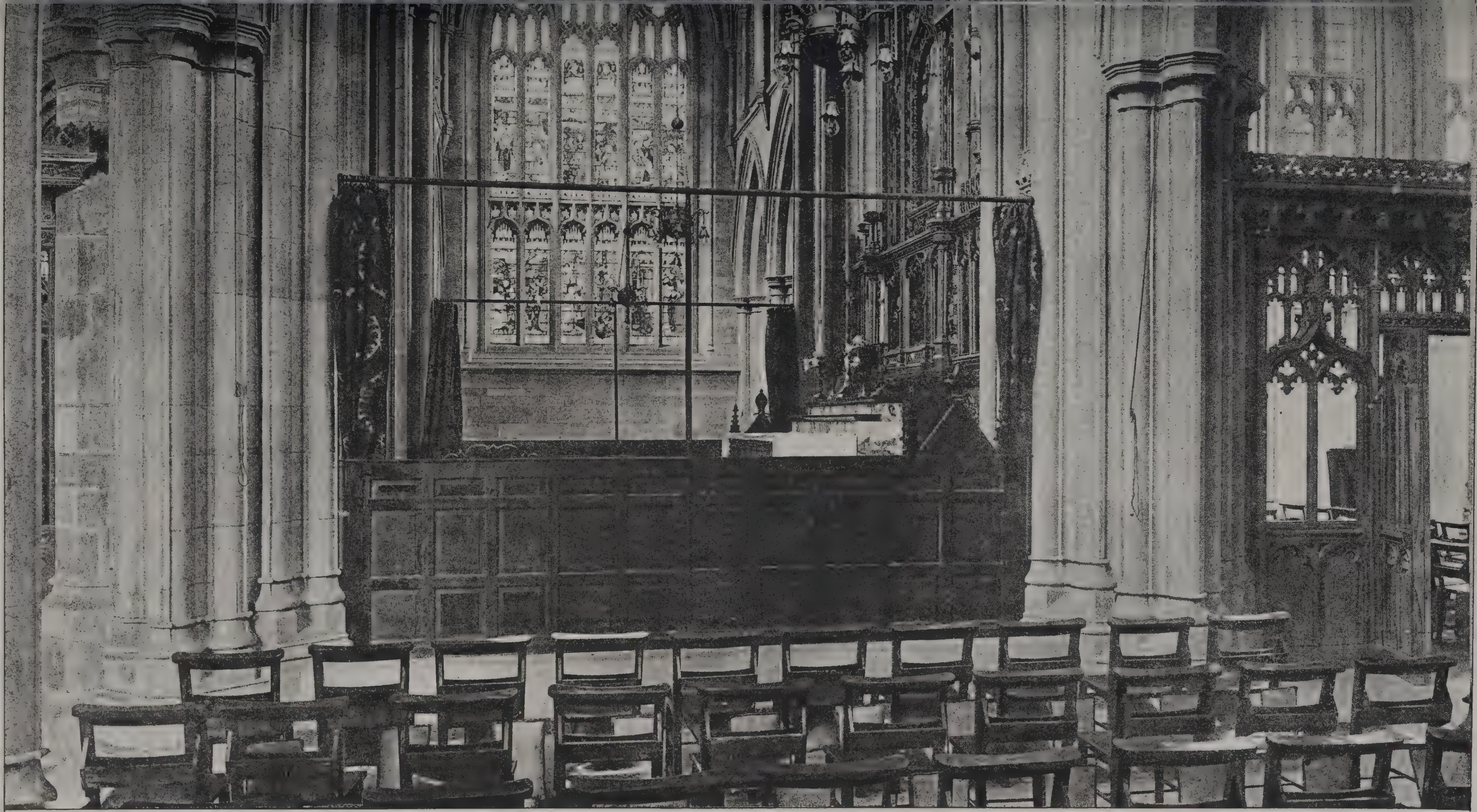

PHOTOGRAPHED BY CHAS. R. H. PICKARD, 5 PARK LANE LEEDS.

"INK-PHOTO" SPRAGUE & Cº Lᵀᴰ 4 & 5, EAST HARDING STREET, FETTER LANE, E.C

Cathedral Series, No. 540.—Wakefield: View from North Transept, across Sanctuary to South Transept.

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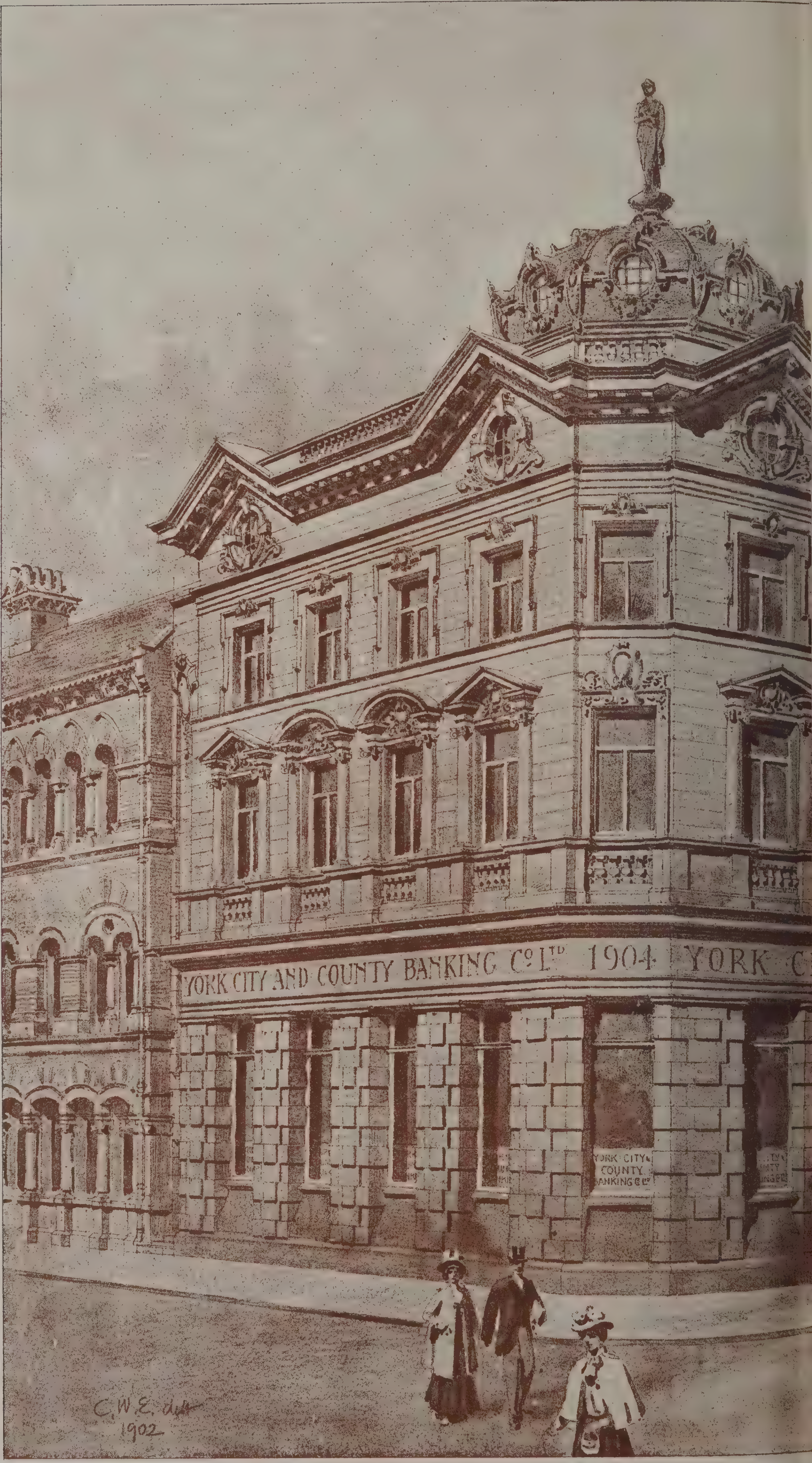
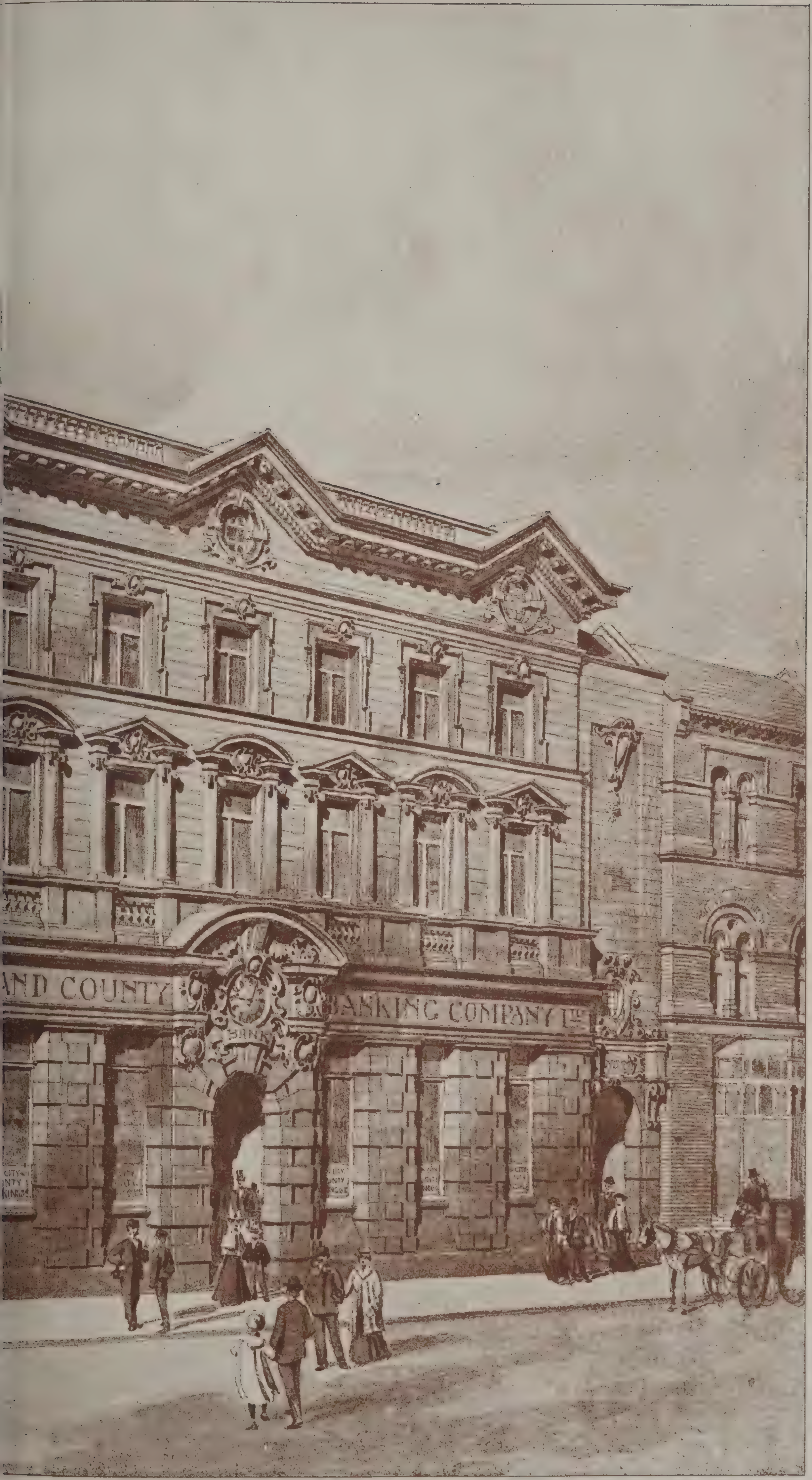

YORK CITY AND COUNTY BANKING Cº Lᵀᴰ 1904 YORK C
YORK CITY & COUNTY BANKING Cº Lᴰ
C.W.E. del
1902

PERSPECTIVE VIEW OF YORK CITY

Messrs. HARRY BARNES, F.R.I.



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COUNTY BANK, MIDDLESBROUGH.

F. BURTON, Architects.

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ST AVGVST
PAROCH

PROPOSED NEW BVILDING

FRANK. WIND
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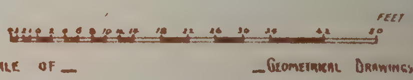
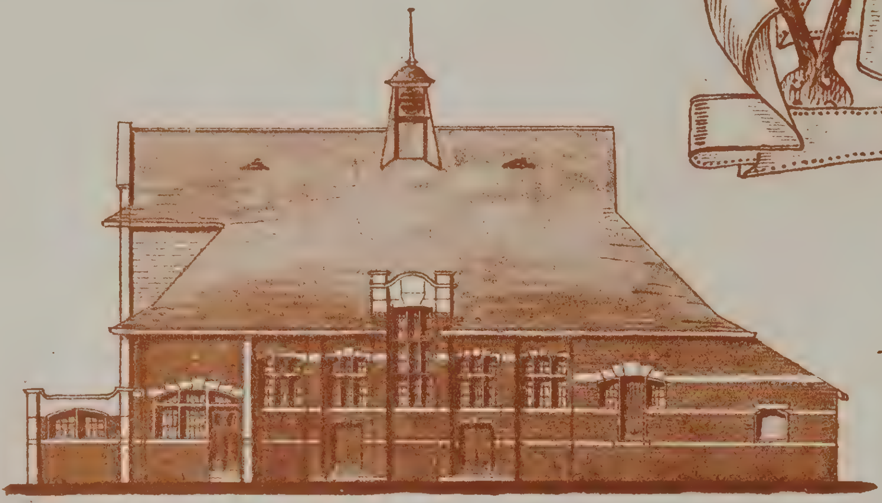
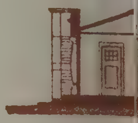
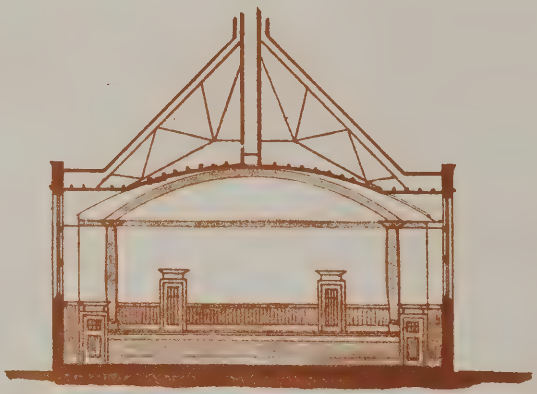


— SCALE OF — — GEOMETRICAL DRAWINGS —



— ELEVATION TO ST AVGVSTINES AVENVE —





— SECTION ON LINE A-B LOOKING TOWARD STAGE —

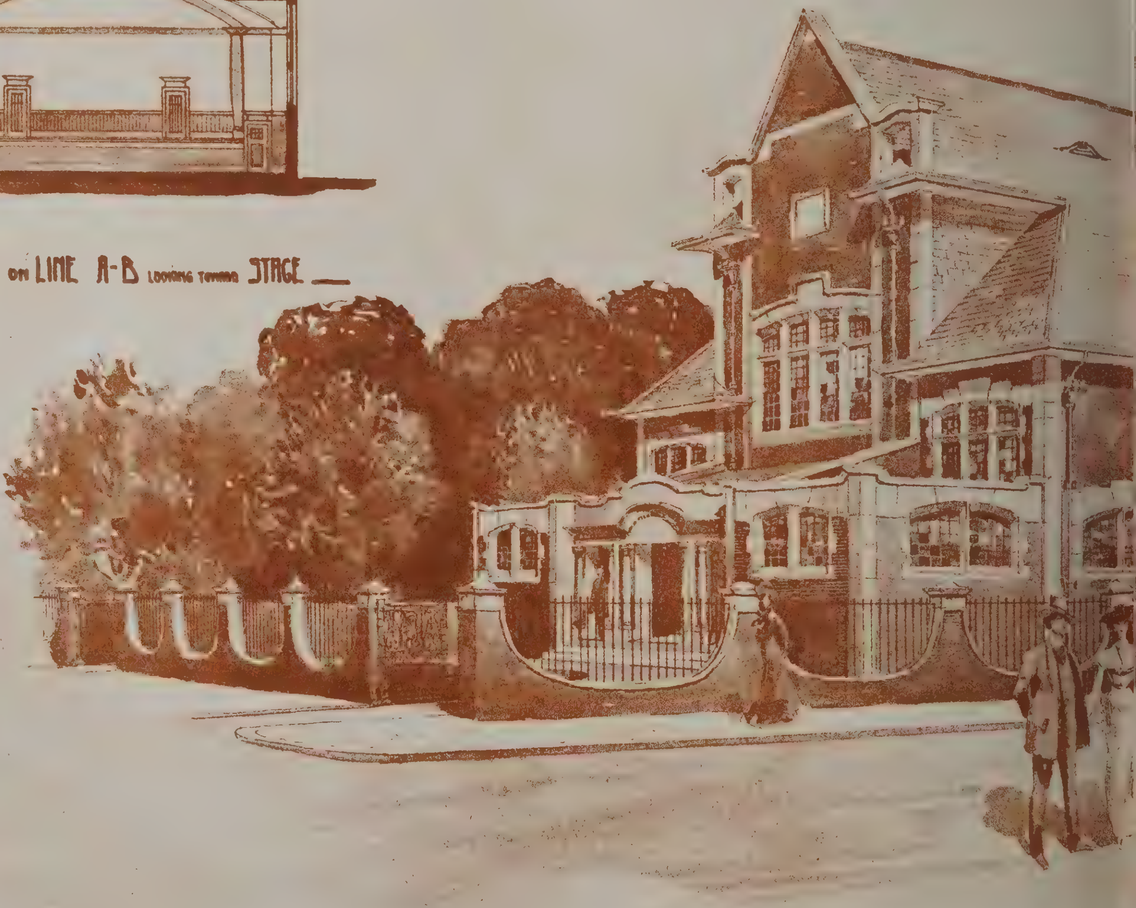
NOTES —

COMMITTEE ROOM
HEATING CHAMBER
SCENERY, CHAIR &
COAL STORES ETC
IN BASEMENT.

HALL WIDTH = 50 FT
HALL LENGTH = 66 FT

ACCOMMODATION IN
MAIN HALL = 424
GALLERIES = 40
TOTAL = 464

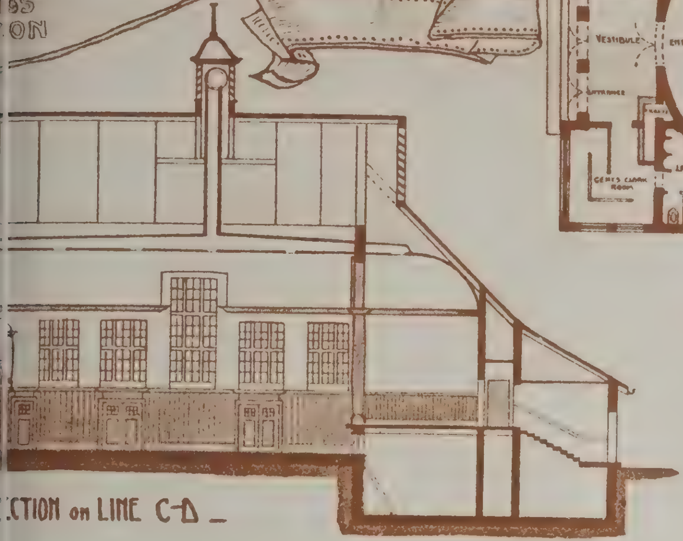
GREEN WELSH SLATES
ON ROOFS ETC
EXTERNAL BRICKS
FAREHAM RED. WITH
PORTLAND STONE DRESSINGS
DOORS ETC TEAK



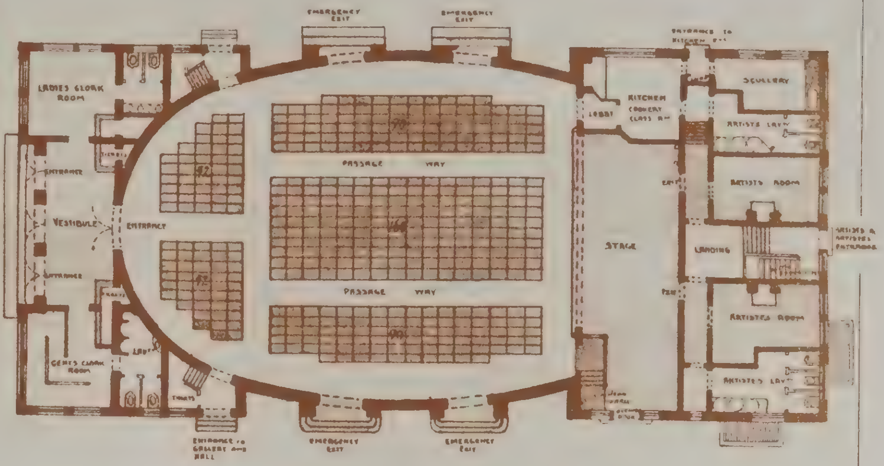
AN IMPRESSION

S HALL
L
HTON Rd CROYDON

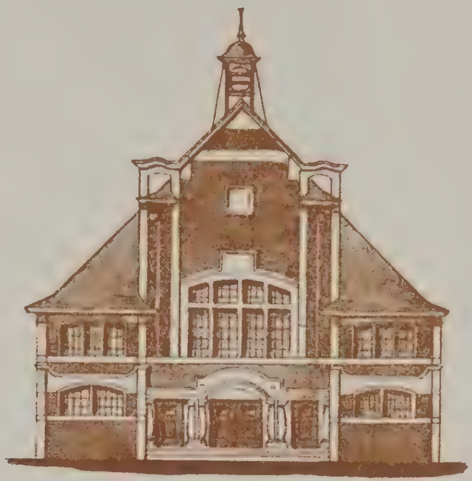
RCHT
03
ON



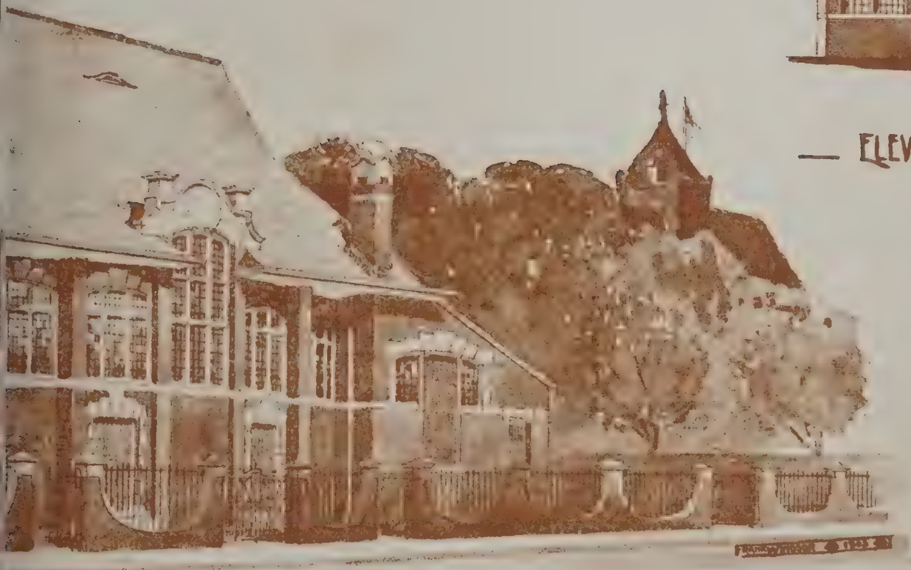
CTION on LINE C-D _

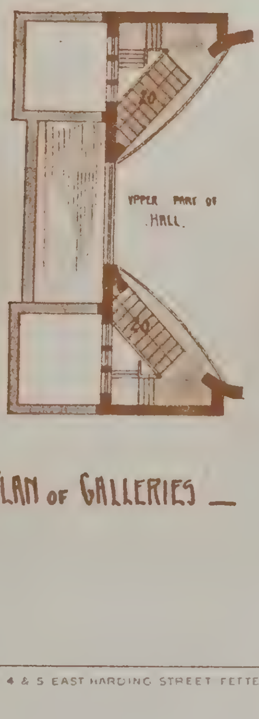


GROUND PLAN



ELEVATION to BRIGHTON Rd





PLAN of GALLERIES

LOOKING SOUTH-WEST

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The Architect.

THE WEEK.

Plain people must be allowed to doubt the use of a finance committee as part of the London County Council, for when recommendations arrive from Lord Welby and his associates no value is set on them. A nebulous report from the highways committee, advising the Council to make arrangements for the supply of electricity in bulk to London and surrounding districts, came before the meeting on Tuesday. The finance committee, in a special report on the proposal, pointed out its uncertain character, and wrote :—" The Council is at the present time engaged in carrying out several great improvements and works involving a large amount of capital expenditure, and during the present year it has decided upon the immediate electrification of the whole of the northern system of its tramways, and this with various extensions and other reconstructions will necessitate a far larger capital expenditure on tramways during the next few years than in any past year. Again, the acquisition of a site for the new County Hall has been approved, and provision for this, together with the building, will make a serious addition to its normal requirements on capital account. In these circumstances, and apart altogether from the consideration of the risk which the proposed scheme involves, we think the Council should endeavour to find some solution of the problem which would not involve the raising by the Council of large sums of capital in the near future." This protest was disregarded. For the recommendation of the highways committee there were seventy-nine votes, while only thirty-six were given in favour of a further consideration of the scheme.

Blackfriars Bridge was opened on November 6, 1869, and in less than forty years the traffic over it has increased to such an extent that widening of the roadway has become necessary. The principal cause, however, arises from the desire to utilise the bridge for tramway communication. On Tuesday the Bridge House estates committee of the Corporation approved of the report of Sir Benjamin Baker, which recommends the widening of the bridge on the western side, including the foundations. An Act must be obtained before the works can be undertaken. The existing bridge merits to be respected when the alterations take place. It is evidence of a desire to have a more satisfactory structure than either the neighbouring railway bridge or Southwark Bridge. Wrought-iron was used for the arches, and the spandrils were filled with latticework having ornamental bosses at the ntersections. The massive granite engaged columns have sculptured capitals and bases of Portland stone, the former being the work of Birnie Philip, who was one of the artists of the frieze of the Albert Memorial. He introduced sea birds and marine plants on the eastern side and fresh-water plants and land birds on the western face. The designer of the bridge was Joseph Cubitt, and the works were carried out by Messrs. Thorn. The central span is 185 feet, the shore arches re 155 feet and the intermediate arches 175 feet. Between the parapets the width is 75 feet, the roadway being 45 feet and each footpath 15 feet. The total ength is 1,272 feet. The bridge was the subject of itigation between the contractors and Corporation, with he result that the Courts decided that a person who nvites tenders for work does not impliedly warrant the plans or specifications according to which the work is to e done.

" Unseemly " is a word which is not usually applied o buildings. It is commonly employed to indicate cts. The equivalents given by Johnson are indecent, ncomely, unbecoming. But the word was enough to convince the Scottish Courts that certain buildings were not fitted to be erected contiguous to a convent in Edinburgh. The nuns held under a deed which was made in 1863. It was guaranteed that on the adjoining land unseemly buildings were not to be erected. Application was recently made to erect two tenements of houses near the convent grounds. Permission was granted in the Dean of Guild Court, and the occupants of the convent applied to the Courts for an interdict to prevent the erection of the buildings. It was argued on the other side that the buildings would be of a superior character. Lord Ardwall said the question he had to decide was whether the proposed buildings were unseemly within the meaning of the deed. His Lordship considered the phrase "unseemly building" must be construed with reference to the position and surroundings of the building, and (in a question of servitude) in view of the effect of its erection upon the dominant tenement. Now, the plaintiffs' house was a large and ornamental villa. It stood nearly in the centre of a garden, shrubbery and policies considerably larger than were generally found in connection with a villa. It had a bowling-green attached to it, and altogether might be described as a small *rus in urbe.* It appeared to him that to erect tenements such as proposed up to within 10 yards or 30 feet of the pursuers' boundary wall would have the effect of completely destroying the amenity of the plaintiffs' house and grounds. He was of opinion that having regard to the locality where they were to be erected, namely, a villa locality, and their proximity to the pursuers' handsome villa residence and grounds, they must be regarded as unseemly buildings within the meaning of the bond. Even if his Lordship had any serious doubt on the question as to the meaning and application of the word "unseemly" in the circumstances under consideration, he should hold in dubio that the word and the clause in which it occurred must be so interpreted as best to carry out the intention and meaning of the parties in entering into the agreement and the deeds following thereon. That intention undoubtedly was to preserve the amenity of the pursuers' residence, and that intention would be frustrated were the tenements in question to be erected on the site proposed. Judgment was therefore given in favour of the nuns.

When a local authority takes a house for the purpose of widening a street under Michael Angelo Taylor's Act, sec. 80, the mere assertion of the tenant of part of the house that it is possible to take the part of the house required and to leave his portion, will not entitle him to retain that portion if, in fact, such severance is not practical. This was the very reasonable decision arrived at by Swinfen Eady, J., in the case of Pescod *v.* Westminster Corporation. The learned judge found as a fact that, though it was physically possible to leave standing the fragment of a house as required by the plaintiff, that fragment would immediately be condemned by a district surveyor as a dangerous structure. He held therefore that it had been rightly adjudicated that it was necessary to take the whole house for the purpose of widening the street, though, in fact, the street would not cover a portion of the site of the house. If by law the Corporation could only have taken the part intended to be used as a street in the event of the owner wishing to retain the remaining part the greatest inconvenience might have resulted, especially when, as in this case, the house was let in separate floors. "Such a rule would enable the owner of a very limited interest in a small part only of a house to require that part to be left, although the removal of the portion necessary to be pulled down might render the whole of the rest of the house perfectly useless." In short, whenever you cannot take part of a house without destroying the identity of the remaining part of the house as a house, you must necessarily acquire the whole of the premises.

STRUCTURES AND PROJECTIONS UNDER THE LONDON BUILDING ACT, 1894.

TWO sections of the London Building Act, 1894, have given rise to considerable diversity of opinion among the Judges of the High Court, and until they have been considered by the Court of Appeal it is impossible to be quite certain as to their exact application. These sections are the 22nd and the 73rd. Section 22, sub-section 1, enacts that "no building or *structure* shall, without the consent in writing of the Council (*i.e.* the London County Council), be erected beyond the general line of buildings in any street." Section 73, sub-section 8, enacts that except in so far as is permitted by preceding sub-sections of the section, and except water-pipes and their appurtenances, copings, string-courses, cornices, fascias, window dressings and other like architectural decorations, "no *projection* from any building shall extend beyond the general line of buildings in any street, except with the permission of the Council, after consulting the local authority." It is as to the meaning of the two general words "structures" and "projections" that this diversity of opinion exists.

One of the earliest and perhaps the leading case upon the interpretation of the latter of these two words is Hull *v.* London County Council, decided in 1901. In that case an electric advertisement sign had been attached to the external wall of the building. This sign consisted of a wooden case with a glass front measuring 10 feet 6 inches in height by 7 feet in breadth. It was affixed to the wall by iron brackets, and a space of 6 inches intervened between the back of the sign and the wall. It projected 16 inches from the wall of the building, and did not project over the highway. The question to be decided was, was this sign a projection within section 73, sub-section 8? Bruce and Phillimore, J.J., held that it was not. Their decision was based upon a consideration of the scope of the section which they contended must govern the meaning of the word "projection." The whole preceding part of the section, it was said, related to the construction of buildings—to projections from buildings in the nature of architectural projections or decorations. It followed, therefore, that the projections to which the section applied were projections forming part of the buildings from which they projected. The Court considered that the projection in question could not be said to be a projection which formed part of the building. It was pointed out also that the Council had power under section 164 of the same Act to regulate such things as lamps, signs and other structures overhanging the highway, which section the learned Judges considered was more properly applicable to projections such as that which was then being considered.

In the case of London County Council *v.* Illuminated Advertisements Company, decided in 1904, the meaning of the term "structure" as used in section 22 was discussed. In this case the defendants had erected upon the front walls of their house twelve electrical advertisement signs. They were constructed of sheet-iron supported by wrought-iron supports pinned through the front walls of the building, and varied in width from 2 to 5 feet, and in height from 5 to 7 feet. They stood out 10 inches from the external wall and 10 inches from the general building line, but they did not project so far over the street as the existing cornice. Kennedy, J., decided that they were not structures, because they were not permanent, and not intended to form part of the building. He thought, however, that they might have been held to be projections within section 73, but for the decision in Hull *v.* London County Council. Wills, J., thought that they were structures. He considered that while annexed to the building they were part of the building, and whether or not part of the building they were structures. Lord Alverstone, C.J., in substance agreed with Kennedy, J. The result therefore of these two cases is that (1) In the opinion of two Judges who decided the earlier case such signs are not projections within section 73; (2) That in the opinion of two out of the three Judges who decided the later case they are not structures within section 22; and (3) That in the opinion of all three Judges who decided the later case they might, but for the decision in the earlier case, have been held to be projections within section 73.

The most recent case on the subject is London County Council *v.* Schewzik, decided last August. In that case the defendant had placed over his doorway, at a height of 11 feet from the pavement, an iron framework, filled in on the front and sides with leaded glass, and covered on the top with zinc. Its dimensions were about 10 feet 6 inches long and about 5 feet 6 inches high. It projected about 4 feet 6 inches from the front wall of the building, and was beyond the general building line. The question to be decided was, was this thing either a structure within section 22 or a projection within section 73? Lord Alverstone, C.J., and Ridley, J., were unanimous in holding that it was not a structure within section 22, on the same grounds as a similar thing was ruled not to be a structure in London County Council *v.* Illuminated Advertisements Company. Lawrance, J., the other member of the Court, did not deal clearly with this question in his judgment; but he was quite sure that Hull *v.* London County Council was rightly decided, and that it was not a projection within section 73. On the other hand, Lord Alverstone, C.J., with some hesitation, and Ridley, J., with considerably less hesitation, thought that it might have been ruled to be a projection but for the previous decision. However, they decided to follow that case, not because they altogether approved of it, but because it was desirable, in the public interest, that Courts of co-ordinate jurisdiction should follow their decisions unless there are very strong grounds to the contrary.

All these cases are open to review in the Court of Appeal, and having regard to the extraordinary diversity of opinion expressed in the Courts below, it is hardly possible to forecast what the decision of the Court of Appeal will be. No doubt the law is settled so far as the High Court can settle it, but should persons act upon the law as so settled they will act with the risk that the London County Council may at any time take a test case to the Court of Appeal. Should the Court of Appeal overrule these decisions, it is clear that much inconvenience and probably pecuniary loss will be caused to those who have acted upon another interpretation of the statute. There would certainly seem to be a good case for passing a short Act either to bring such signs as these within these sections, or to exempt them from these sections. To take such a course would be more equitable than to wait for a judicial determination of the question, because such an Act, if it brought such signs within these sections, would not have a retrospective effect.

THE WATER-COLOUR SOCIETY.

ANYONE who may be sceptical about the value of buildings as subjects for painting should visit the winter exhibition of the Royal Society of Painters in Water-Colours. There are several varieties of drawings to be seen, but representations of architecture are as numerous as figure subjects, flower studies, or landscapes. They would go far towards the illustration of a treatise on architecture. Sir Harry Johnston's opaque colours seem to be adapted for the prehistoric stone houses on Achill Island, while Mr. Reginald Barratt's *Garden View of Cranborne Manor* is so modern it would not be out of place in the architectural room of the Royal Academy. Between those extremes there is much that is interesting. Mr. E. A. Goodall shows the Mosque of the Imame at Cairo, the designer of which must have anticipated Mr. Ruskin's advice by thinking in shadow, for many features seem to have been introduced to gain that sort of effect. Mr. Herbert

Marshall has visited France, Holland, as well as various parts of England and Cannon Street. His view of Laon is one of the most interesting. Miss Montalba this year has not remained faithful to Venice, but the drawing of the Piazzetta is as effective as any of her earlier scenes. Mr. T. M. Rooke is in great force. His *Tower and Wall* does not consist of masonry only, for the vegetation forms a striking contrast with the stone. His *Sculpture in the North Transept, Semur*, shows the curious heads which form capitals. There is a companion drawing of the sculpture in the choir. It is satisfactory to find several drawings of the Manor House at Faulin, which have been commissioned for the Municipal Gallery at Birmingham. Mr. Rooke has also some general drawings of French towns. The Taj Mahal may now be regarded as a stock subject on which all landscapists must try their hands. Mr. Goodwin has taken a point of view on the banks of the river from which the dome appears most prominent. The artist has introduced one of his lurid skies, which not only increases the mystery of the structure but serves as a contrast to it and the dark vegetation. Mr. Goodwin shows several other drawings—one being of Bristol. Mr. S. J. Hodson has some very careful views of Winchester as well as of Waterloo Bridge and London Bridge. Dieppe Harbour is well adapted for Mr. R. W. Allan's style; the houses on the quays differ from those near Scottish harbours, but they are rendered satisfactorily. It is wise to seek new scenes. Nevertheless, with an artist whose manner is pronounced there is always a risk of ignoring the characteristics which are most local. Mr. James Paterson's *Grass Market, After Rain*, is true to Edinburgh. He has other scenes from the city and its vicinity which are a welcome novelty. Mr. Reginald Barratt has a lovely drawing of the Court of the Alhambra, in which the ornament of the doors and walls is faithfully shown without injuring the breadth of the composition. Mr. D. Y. Cameron's *The Citadel* attracts by its long horizontal lines. Structures of the kind are supposed to have little use in war, and this may be only an imaginary defence arranged for appearance sake. We may look on it as a Temple of Mars from which the god as well as the votaries have flown, and possessing interest only through its simple architectural qualities.

The figure subjects comprise many fine examples. Mr. R. W. Macbeth's *Bathers* is close to the entrance and is one of his most charming drawings. Mr. Anning Bell has only one drawing, *The Sleeping Beauty*. Apparently he has desired to suggest that inaction increases the weight of figures, for the sleepers are all of what the Scotch call a "sonsie" type. Mr. J. P. Weguelin's *Touch of Spring* and *A Pastoral* show refined figures amidst white and green vegetation. The drawings are suggestive of spring, and a building would gain which could be decorated in that manner. Mr. E. R. Hughes gives an expressive portrait of Professor Legros, an artist who is well deserving of recognition. Mr. A. Rackham's humour evinces no decline. His *Bastinado* from the title may not seem a thing for laughter, but the content of the two men who hold the bamboo to which the turbaned Turk's legs are pinioned, the official who suggests patience, and the great man who tucks up his sleeve, are all so well satisfied with their offices, the spectator is bound to side with them rather than with the victim. Mr. H. E. Crocket's *St. George* will be considered as novel in treatment, because the knight is seen riding through water to attack the dragon. But in the earliest English version of the legend the dragon is described as having made "a ponde lyke a see" around his retreat. In the drawing the saint also appears as passionless as if he were taking part in a religious ceremony, which further corresponds with the old belief.

The landscapes are excellent. The long line of hills in *Palma, Mallorca*, by Mr. W. Mathew Hale, makes the drawing impressive, for it is not often so much red is introduced without a break. Mr. Hale has also introduced red clouds in his *Dawn at Sea*. Mr. Callow's landscapes have merits of their own which command admiration, apart from the fact that some of them were painted sixty years ago. *The Street in Innsbruck* is one of the most successful views of that picturesque city. The President in his *Hill Side Quarry* is as detailed as if it were intended for a geological lecture. Mr. Napier Hemy's sea-pieces all seem like familiar friends, but their vigour cannot be questioned. Mr. Clarence Whaite has only three drawings, all admirable Welsh scenes. *The Midday Rainbow* is a masterpiece of delicate handling. Mr. Jessop Hardwick does not confine himself to flowers, but those examples he gives hold their own amidst surrounding drawings, *Roses* especially asserting itself. Another noteworthy example of flower drawing is the *Dahlia*, by Mr. Henry Wallis, which is his only contribution to the exhibition. Mr. Lionel Smythe's *Gathering Dandelions*, a girl in a field which abounds with the flower, is simple to excess. But the green and yellow on the ground and the blue sky form a harmony that is pleasing.

The Winter Exhibition is without any startling drawings like those which were seen recently in the room. All of them also are of a reasonable size and adapted to ordinary houses rather than to public galleries. It would almost seem as if time had turned backward and we had before us the work produced ten or more years ago. There is something of the old repose which used to be so delightful, but which the Society for a time seemed to have resolved to abandon. The exhibition is adapted to afford pleasure, and students of architecture especially will find much to attract them.

AN ACADEMY RECORD.*

THE volumes of the Dictionary of Contributors to the Royal Academy appear with the regularity of periodical publications. So much punctuality would be impossible if the work had not been prepared on a definite plan, and if the organisation was in any way incomplete. Subscribers may therefore be assured that what Mr. Algernon Graves has proposed will be undertaken to the letter.

This third volume recalls much that is interesting. Sir Charles Lock Eastlake, who afterwards was to serve as librarian of the Academy and as president, first exhibited in 1823, in his thirtieth year. His reputation was gained as a figure-painter, but the three works he exhibited in 1823 were of a different character. They were:—"View of the Bridge and Castle of St. Angelo, with St. Peter's," "View of the Coliseum from the Campo Vaccino," "View of the Basilica of St. Peter's from the Monte Mario, near Rome;" they were all painted in Rome. It is pointed out that ten years earlier he had exhibited in the British Institution. Another of the Academy notabilities was John Flaxman, who, in his fifteenth year, contributed three works to the Academy. His address was "At Mr. Flaxman's, Golden Head, New Street, Covent Garden." That was his father's shop, where casts were sold. He died in December 1826, and in that year exhibited a small model of Michel Angelo and another of Raphael. In 1827 there was seen in the Academy his statue in marble of John Philip Kemble. His brother, William Flaxman, and his sister, Mary Ann Flaxman, were likewise exhibitors. The paintings of Henry Fuseli may not be esteemed, but the peculiarities of the artist have secured for him a position in the history of English art. He was the son of a painter, and in his father's studio acquired some knowledge of art; but his ambition was to be an author. The praise which Reynolds bestowed on some of his drawings induced him to go to Rome to study the style of Michel Angelo. In 1774 he sent a drawing of the death of Cardinal Beaufort to the Academy from Rome. A few years afterwards he had settled in England at 1 Broad Street, corner of Portland Street. In 1783 he was living in St. Martin's Lane, and in 1788 in Queen Anne Street. His nightmares and heroic figures are known. But it is generally overlooked that Fuseli was the first artist who in England revealed the heroes of the northern legends. As early as 1807 he utilised subjects from the Nibelungenlied, which must have appeared incomprehensible to the spectators. Fuseli, however, seems to have been acquainted only with the part of the epic known as "Chriemhilde's Revenge." For most connoisseurs the greatest name in the third volume is that of Thomas Gainsborough. He was one of the foundation members of the Academy. From 1769 to 1772 he sent his pictures to the Academy from Bath. In 1774 he came to London, and lived in Hatton Garden. For a few years he was not represented, and in 1777 when he again contributed he was residing in Pall Mall. After 1783 he ceased to exhibit.

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* *The Royal Academy of Arts:* a complete Dictionary of Contributors and their Work from its Foundation in 1769 to 1904., By Algernon Graves. Dedicated by special permission to His Majesty King Edward VII. Vol. III. Eadie to Harraden. (London: Henry Graves & Co., Ltd.; George Bell & Sons.)

Gainsborough and other portraitists used generally to describe their works as "Portrait of a Lady," "Portrait of a Gentleman," &c. The architects were no less indefinite. The name of C. W. C. Edmonds, architect, appears in the catalogues between 1834-49; but his works are described as "Design for Castellated Mansion," "Design for a Gothic Villa," "A Park Entrance," &c., which it is now impossible to identify. Francis Edwards is another example. He won the Gold Medal in the Academy schools, and was an assistant to Sir John Soane. But although he was exhibiting from 1809 to 1830, the only buildings of his in which names are mentioned are a church at Hoxton and "Holmbush, Sussex, for Thomas Broadwood, Esq." Such buildings as "Design for an Edifice dedicated to National Virtue and Genius" and "Temple and Garden of Hope" never gave employment to workmen. There were no less than four Elliots belonging to the same family whose works are often confounded in biographies. Archibald Elliot in 1794 exhibited a design for a temple. In 1806 he sent "Loudon Castle, the seat of the Countess of Loudon and Moira." He sometimes acted as contractor as well as architect. His son, Archibald Elliot, jun., exhibited a view in 1817 of an "Episcopal Chapel in York Place, Edinburgh." It was followed by an "Improvement of High Street, Edinburgh," "Newbyth House, East Lothian," and "Regent's Bridge, Edinburgh." The younger Elliot had much to do with the improvement of Edinburgh, and his gaol on the Calton Hill is praised by Sir Walter Scott. A brother of the architect exhibited in 1817 a view of a triumphal arch proposed for the city of Edinburgh, and in 1821 a design for a mansion at Dunkeld for the Duke of Atholl. The fourth Elliot was represented only by "A Public Building" in 1816.

There were three Elmes who practised as architects. H. J. in 1803 sent a drawing of the East India House, Leadenhall Street, and a design for a bath; it was followed by designs for a casine, town hall and pavilion. Then we have James Elmes who began exhibiting in 1801, and whose last drawing, "Raising the monolithal granite obelisk between Fleet Street and Ludgate Hill, June 26, 1833," with an architectural study, appeared in the exhibition of 1842. Elmes was a busy man and his designs were very numerous. He was also a clever draughtsman, for one of his drawings was "The Death of Pliny." But any merit he possessed was surpassed by his son Harvey Lonsdale Elmes. In 1837 he exhibited a design for a staircase to a royal palace; in 1838 a design for a national museum; in 1841 design for St. George's Hall, Liverpool, and New Assize Courts, Liverpool; another design for the latter was seen in 1842, with the Liverpool Collegiate Institution, and in 1843 an interior of St. George's Hall. In 1853 was shown the county lunatic asylum at Rainhill, Lancashire, by Elmes and Moseley. Harvey Elmes died in 1847 in his thirty-fourth year. There can be no question about the position he would have attained if his life had been prolonged. At the beginning of the nineteenth century R. Elsam appears to have been in request, especially in Suffolk and Yorkshire. In 1803, besides a temple sacred to Victory, he sent seven designs for cottages.

Edward Falkener began by sending in 1840 and 1841 designs for a cathedral. Then in 1851 he commenced to exhibit views of buildings in Italy and the East, which prepared him for the investigation of subjects connected with the fine arts, which for half a century formed the chief occupation of his life. Another devotee of architecture was James Fergusson, the historian. Designs by him were twice seen in the Royal Academy—one a National Gallery for Painting and Sculpture and the other for the Albert Memorial, Hyde Park, in 1864. Benjamin Ferrey first contributed in 1834 a "Restoration of Priory Church at Christchurch, Hants," and his last was Bagshot House, for the Duke of Connaught, in 1877. In the interval were several important contributions. Some of his early works were from Bournemouth, which was described as a new marine neighbourhood on the estate of Sir G. W. T. Gervis, Bart., M.P. A portrait of the architect by William Fisk was in the exhibition of 1835. John Foulston erected many buildings in Plymouth and the West of England, of which he published illustrations. In 1804 he exhibited a "Design for converting the late Parliament House, Ireland, into a National Bank." There is some uncertainty about the original designer of that fine building, and Foulston's name is ignored in all descriptions of the Bank which we have seen. Captain Francis Fowke was an exhibitor from 1860 to 1863. With the exception of the Industrial Museum for Scotland, his designs related to South Kensington. Between 1825 and 1849 Charles Fowler was one of the busiest architects in London. In 1828 he sent a design for Covent Garden Market, and we doubt if any other architect presented so many examples of the same kind. He sent seven drawings of Hungerford Market. There were others of his markets at Exeter and Kingston.

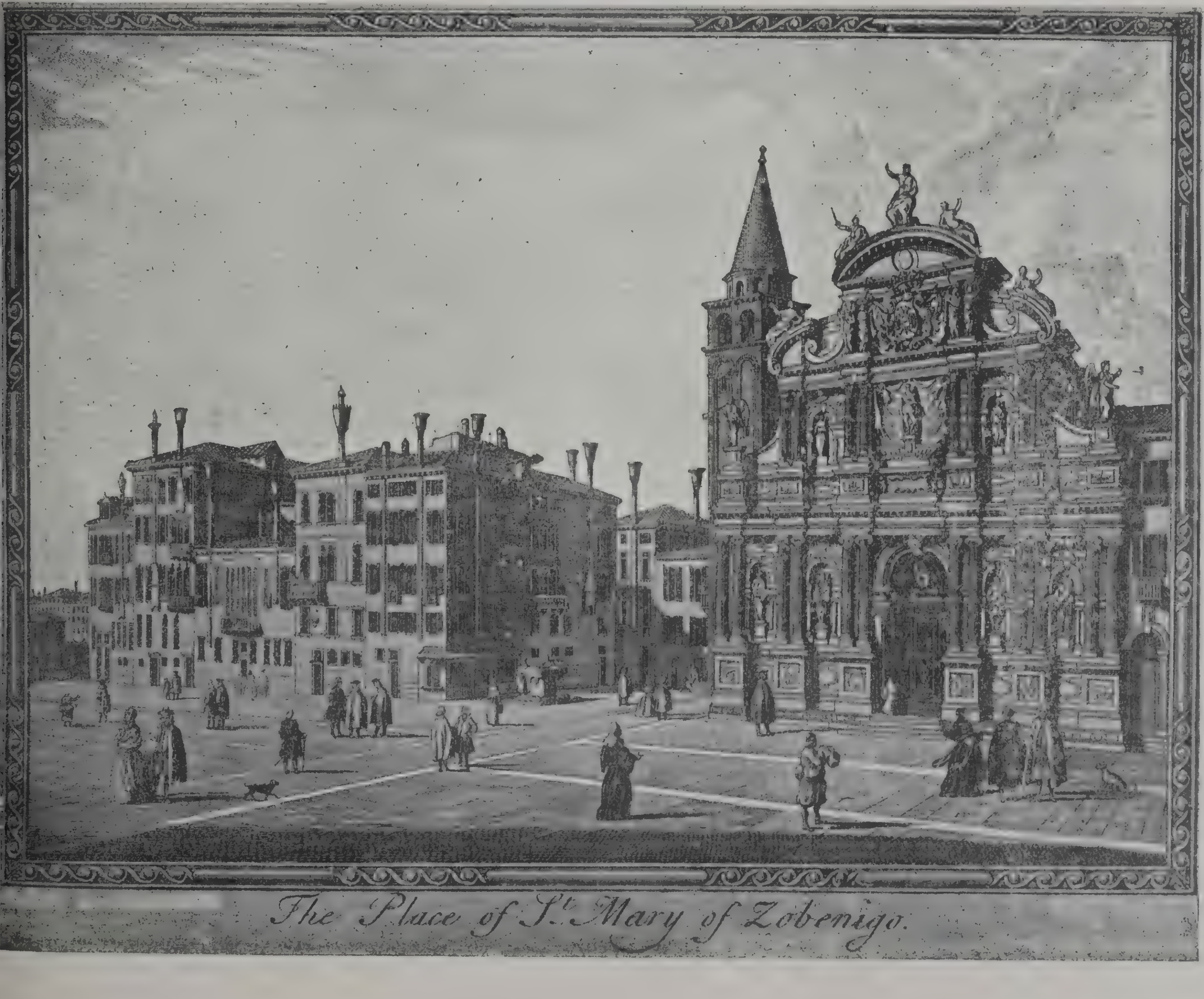
One of the greatest misfortunes of the Academy is that it never was able to inspire members, students or outsiders with a spirit of loyalty. Reynolds threw up his presidentship. Gainsborough declined to send paintings. Barry, who was unwise enough to express the sense of revolt which others felt, was ejected. One of the consequences is that the Academy never was entirely representative of the arts of the country. This fact is suggested by the contributions of James Gandon. He was the first recipient of the Gold Medal for Architecture. He was a pupil of Chambers, and possessed greater ability than his master. Efforts were made to attract him to Russia. His Custom House in Dublin surpasses any of the Renaissance examples on the Grand Canal in Venice; his Four Courts, King's Inns, and other structures in Dublin are all admirable examples. But of those buildings not one sketch was seen at the Academy. It might be supposed from the drawings he sent there that he was simply a painter of ruins:—"Ruins of Basilica," "Ruins of the Vestibule of a Temple," "Ruins of a Temple," "Ruins of the Chapel of Greenwich Hospital after the Fire." He ceased to exhibit after 1780, when it may be said his professional practice commenced. If he had had any pride in the Academy, drawings of his works would have been seen on the walls. But he was not the only prizeman who preferred to be an absentee. John Peter Gandy is better known under his assumed name of Deering. His brother, Joseph Gandy, regularly exhibited at the Academy for practically fifty years. But his casines, imaginary palaces, temples, cenotaphs, altars, British legislative mansions appear to have brought him as little employment as his "Pandemonium, or part of the high Capital of Satan and his Peers." The late John Gibson began in 1858 with a view of a bank in Glasgow, and his last work in 1878 was "Child's Bank at Temple Bar." His practice was not confined to banks, for he also produced churches, residences, schools, offices, &c. E. W. Godwin exhibited only three drawings—"Wall Decoration, &c., from Dromore Castle," and "Town Hall and Council Chamber, Leicester." John Goldicutt, who lived until 1842, made his first contribution in 1810; a great many of his drawings were of Italian subjects. One curious drawing seen in 1835 is thus described: "Chalybeate; a Design to introduce the study of an ancient marble made at Rome of Æsculapius and Hygeia." In 1840 he produced "A Vision of the Nineteenth Century." The Nelson celebrations should recall the name of John Thomas Groves, who was one of the official architects of the time, for in 1807 his design was hung of the "Cenotaph erecting in Portsdown Hill to the memory of the late Lord Nelson, by the officers, seamen and marines of the Fleet under his command at the battle of Trafalgar." Three of the Gwilt family were exhibitors. One of the drawings of John Gwynn, R.A., the friend of Dr. Johnson, was "A Design to make Whitehall a part of the British Museum, by the addition of a centrepiece opposite the Horse Guards."

The Hardwicks were for a long time connected with the Academy. Thomas Hardwick, the son of a builder, was a pupil of Sir William Chambers, while in 1772 he exhibited "The Principal Front of a Casine." We believe he was the Thomas Hardwick, jun., whose name is introduced by Mr. Graves, the two names representing one individual who exhibited from 1772 to 1805. Philip Hardwick, the son of Thomas, was born in 1792. In 1807, when he was fifteen, he began by exhibiting, like his father, a design for a casine. In his twenty-second year he produced a royal palace on the south side of Pall Mall, of which Carlton House was to form the right wing. In 1825 there was a drawing of St. Katharine's Docks—a profitable work for him—and in 1837 the entrance to the railway stations in Birmingham and Euston Square. Other important works by him were Goldsmiths' Hall and the Hall and Library at Lincoln's Inn. Philip Charles Hardwick first exhibited in 1848 and continued until 1869.

If space allowed there is much that is interesting in the pages which could be extracted. Those who have given most attention to the history of English art will acknowledge that Mr. Graves's work is authoritative. One instance, though somewhat trivial, may be noticed. The late Mr. Kirkcaldy, who was the first to investigate the strength of materials by the aid of a special machine, used to exhibit a drawing of a steamer, which he maintained was the only example of naval architecture ever exhibited at the Royal Academy. But we find that in 1775 the Earl of Ferrers, who was a naval architect and vice-admiral, exhibited elevations, horizontal and vertical sections of a schooner, a frigate-built yacht and a clincher-built vessel. It may also be news for some to find that the late Mr. Watts in 1858 exhibited three portraits as "F. W. George." The volume can afford not only instruction but entertainment.

CANALETTO'S VIEWS OF VENICE.—XVII.

ADMIRERS of Renaissance architecture are dissatisfied with the strong terms which were used by Mr. Ruskin against it. But after living in Venice for a long period he could not fail to become acquainted



The Place of S^{t}. Mary of Zobenigo.

with all the examples of the style which existed in the city. It cannot be denied that many of these are not satisfactory, even if tested by a humble standard. The sculptors in several cases appear to have been allowed to do as they liked. In consequence, figures are to be seen, surmounting churches like S. Maria Zobenigo, which appear to reproduce some of the acrobatic feats which were performed in the open space in front of the buildings. If all the sculpture could be removed from the church now illustrated the façade would acquire a little of the repose which is essential in a work of architecture. A church stood on the site from an early period, but it was rebuilt at the expense of the ZOBENIGO or JUBANICA family. Some of the representatives adorn the low range of niches, and the reliefs beneath represent various towns with which they were connected. The interior is less remarkable than many other churches.

BIRMINGHAM COUNCIL HOUSE.

THE general purposes committee, in a report for presentation at a special meeting of the Council on the 28th inst., according to the *Birmingham Daily Post*, state that the particulars of the accommodation required by the several Corporation departments, obtained by the committee, were forwarded to Messrs. Aston Webb & Ingress Bell, the consulting architects, with instructions to advise the committee as to how the accommodation required can be provided on the site.

While the matter was under their consideration it was suggested to the committee that, as the gas committee required additional accommodation on the new site, it might be desirable that the whole gas department should move across Edmund Street, and give up their present offices to the water committee. The requirements of the gas department have greatly increased during recent years, owing to the growth of the prepayment meter business, and after consultation between the two committees it has been arranged that—subject to the approval of the Council—the gas committee should build on the new site, the offices now occupied by them being taken over by the water department, subject to an apportionment of the outstanding loan on those offices.

With reference to the application of the watch committee to have 3,000 square yards of the site allotted to them for the purpose of a central fire-brigade station, the committee are of opinion that it would be imprudent to appropriate the whole of the land without regard to the possibility of extension of the various departments which must necessarily occupy it. They also consider that, having regard to the style of building which it is necessary to erect in such an important position, the site is unsuitable for a fire-brigade department.

The consulting architects, after full discussion with the committee, have satisfied themselves that accommodation which fully meets the requirements of the various committees can be provided without utilising the whole of the site, of which a substantial portion can be left for future requirements. They have allowed for a widening of Edmund Street, between Congreve Street and Margaret Street, to a width of 80 feet, an improvement which the committee recommend.

The relative arrangement of the departments has also received full consideration, and it is proposed that the gas department should occupy the Edmund Street side, that the education department should be in Margaret Street, and the health, housing and tramway departments in Congreve Street. An extension of the Art Gallery is suggested over the new gas offices, to be approached by a bridge across Edmund Street leading from the Round Room of the present Art Gallery. The outstanding loan on the gas offices and Art Gallery buildings, at present a charge upon the gas department, amounts to 64,687*l.*, and subject to the water committee taking over the debt on the gas offices, estimated at 40,000*l.*, the gas committee have intimated their willingness to build the whole of the block containing their offices, including the Art Gallery on the top floor, providing the cost does not exceed 80,000*l.*

The consulting architects estimate the cost of the whole building at 137,900*l.*, of which the gas and Art Gallery block absorbs 74,000*l.*, the tramway block about 15,000*l.*, and the remainder, 48,000*l.*, represents the proposed expenditure on the education, health and housing departments. It is necessary to keep this subdivision in mind, inasmuch as the charges for interest and sinking fund in respect of the gas, Art Gallery and tramway blocks would not fall upon the rates.

The interest and sinking fund on the old 40,000*l.* loan to be taken over by the water department will no longer be borne by the gas committee, and therefore will be a charge upon the rates until the water department so far recovers its financial position as to dispense with a rate in aid. Putting the total capital outlay at a round figure of 150,000*l.*, the capital sum upon which interest and sinking fund would fall upon the rates would be approximately 95,000*l.* There must be set against this sum the value of the offices now used by the water and education departments.

It will be remembered that when the extension was first contemplated memorials were received in favour of providing a natural history museum, which were referred to the committee, who, in their report to the Council of July 4, 1899, stated that while fully recognising the advantages of such a museum they were unable at that time to recommend that provision be made for it. In 1904 further memorials were presented to the general purposes committee, and the question has again been prominently raised by Professor Bridge and others. In their instructions to the architects, the committee made no mention of such a scheme, but the requirements of the committees proposing to use the Congreve Street side do not extend to the top floor, upon which there will probably be an unallotted space which can very conveniently be approached from the Art Gallery. The architects contemplated that this space would ultimately be available for extension of the health and tramway departments, but, having regard to the adequacy of the accommodation now provided, it is not probable that an extension will be required for some considerable period.

The committee see no reason why this unallotted space should not be appropriated temporarily at least for the purpose of a natural history museum, and they recommend such appropriation for the approval of the Council.

The consulting architects recommend that preliminary sketch plans be invited, from which not less than six, nor more than ten, should be selected, the authors of which should submit final designs and should each receive an honorarium of 100 guineas. From the final designs the consulting architects will in consultation with the committee select the best designs. The designs, &c., will be sent in unmarked, but with the name and address of the author in a sealed envelope, and will be numbered as they are received. Each competitor is to submit an estimate of the cost of his design, and each design must be accompanied by a declaration, signed by the competitor, stating that the design is his own personal work, and that the drawings have been prepared by his staff and under his personal supervision. It is intended that the sketch plans shall be sent in by March 31, 1906. The committee recommend that they be authorised to obtain plans in accordance with these proposals, and to submit their recommendation as to the final design.

BRITISH SCHOOL AT ROME.

THE annual meeting of subscribers to the British School at Rome was held on Tuesday. Professor H. F. Pelham, chairman, expressed thanks to those who had signed the memorial which resulted in the Government grant of £500. He doubted whether any memorial was ever sent in the signatures to which were more representative of educated opinion throughout the country. It was a sign that the conviction was growing as to the importance not merely of individual study, but of organised study being centred where organised study could be pursued. The school had still a great deal of work to do, and it still lagged very far behind the great foreign schools in the matters of income and equipment. He hoped that in the years to come they would do something to put themselves more closely on a level with such institutions as the German Institute at Rome. Another point was that the German and French students knew that their work in Rome led to some definite position, but work at the British School led directly to nothing in that way, and some greater promise of a career for the students was needed. The published papers of the school had been appreciated by foreign scholars. No one should entertain the notion that the school was purely classical, purely archæological, or purely Oxford and Cambridge. They welcomed all from wherever they came, and there were infinite lines of study in Rome which might be profitably followed. There were fields still untouched, such as Mediæval history. He was anxious that the British School at Rome should produce an account of the English in Rome. The materials were there, but the man was wanting.

Mr. H. Stuart Jones, late director of the school, gave an account, illustrated by lantern slides, of some Roman historical sculpture in the light of recent studies. He mentioned that during the two years he was director of the school one result of its work was to exhibit the continuity in the development of Roman art by filling up certain gaps in its history, and to deduce from the study of monuments facts which were of importance to the historian. Mr. Jones showed photographs to illustrate the classicism and eclecticism of the Augustan period and the realism of the Flavian. In some reliefs found in the Villa Borghese, and which have been attributed to a period between the Augustan and the Flavian ages, he pointed out distinctive characteristics to show that these actually belonged to the reign of Trajan. Reliefs from the triumphal arch of Marcus Aurelius, showing "Fortuna Redux" welcoming the Emperor back to Rome, were exhibited, and in a very interesting way Mr. Jones, from the details of these sculptures, drew the deduction that Marcus Aurelius returned to Rome in the year 174, in the interval between his war with the Germans and his war with the Sarmatians—a fact which is doubted by some historians.

The President of Trinity College, Oxford, was re-elected chairman of the managing committee, and the other officers were also re-elected.

THE AMERICAN SCULPTURE SOCIETY.

AN explanation of the objects of the National Sculpture Society by Mr. R. Rush-Brown has been published, from which we take the following:—

The object of the National Sculpture Society is to spread the knowledge of good sculpture; foster the taste for, and encourage the production of, ideal sculpture for the household and museums; promote the decoration of public and other buildings, squares and parks with sculpture of a high class; improve the quality of the sculptor's art as applied to industries, and provide from time to time for exhibitions of sculpture and objects of industrial art in which sculpture enters.

The exhibitions of the Society have had an educational influence in many directions, but a more important object lesson has come from the great World's Fairs, where sculpture, monumental, ideal and historic, forms a very large element in the artistic arrangement. If, then, sculpture is so indispensable to the temporary buildings and grounds of a fair, how much more important it is to the permanent public buildings of cities. The development of our country has been so rapid that the public buildings of the past could be considered only temporary structures; but now in this generation we are building for the future, and we should have a care that these permanent monumental buildings should be artistically worthy of, and historically expressive of, the best our civilisation represents. Therefore the time now seems ripe for arousing the attention of the public to the educational function of sculpture. Thus far this item of education has been relegated to the museums, and this does not seem to be sufficient.

Let us consider for a moment the public buildings of Europe. What makes Florence so interesting? At every turn you meet some building whose intrinsic architectural excellence is enhanced by ornament: the façade of the Duomo, rich with rare marbles and statues; the Baptistery opposite, not important as an example of architecture, yet with a world-wide reputation on account of its wonderful bronze doors; the Loggia di Lanzi, that exquisite little open-air museum of sculpture; the Uffizi, with its arcades and loggias crowded with statuary; even the grim old palace of the Signoria softened by the neighbouring fountains.

In Paris we have the Hôtel de Ville, profusely enriched with sculpture and mural painting by the best artists of France, and the Opera, similarly treated, while every city of France has one or more public buildings in which artistic enrichment is a dominating feature; and Germany's late advance toward a leading place among nations is nowhere better shown than in the artistic development of Berlin, which is so rapidly becoming one of the most completely and beautifully decorated cities of the world.

While the function of a building should be manifest in the lines of its architecture, yet on sculpture and painting must it depend for the interpretation of its meaning and purpose to the people.

In the accessories of our public buildings quite as much as in monuments in our streets and public places, the great events of our history should be expressed in enduring form.

The material advantages of a general appreciation of art will tell upon the welfare of our people, and enter into their daily lives, enriching and ennobling their thought, improving their morals and beautifying the product of their hands in all trades and industries.

The strength of nations is measured by their commerce or their conquests, but the glory of a people is measured by their art and literature. In some cases the wealth of a people is measured by their collection of art.

Italy derives an income of 50,000,000 dols. per year from the foreigners who live permanently or sojourn for a time within her borders.

Through the encouragement of art in France, she derives an annual income of 150,000,000 dols. from the foreigners who are attracted there, or five per cent. income on three billions.

It is generally acknowledged as indispensable that a proportional amount of the cost of any public building should go for fine marble, rare woods for interior finish and sumptuous furniture, yet the vital lesson of life, to be told only by sculpture and painting, is sparsely treated or neglected altogether. But unless this generous provision for civic dignity is supplemented by its appropriate expression through the fine arts, its effect will be largely lost.

The art in the Congressional Library was only 7 per cent. of the total cost of the building. The decoration of the Appellate Court Building in New York City was something more than 20 per cent. of its total cost. The art of the Hôtel de Ville of Paris cost 12½ per cent. of the total cost of the building.

We therefore recommend that our Federal and State Legislatures and City Councils, by enactment of proper laws and ordinances, require that of the total cost of every public building a certain portion thereof, not more than 10 per cent., be expended in historic art—sculpture and painting—including stained glass and mural decorations of all classes; and also that of the total cost of municipal government a definite, even though small (say one-half of 1 per cent.) appropriation be devoted to beautifying the city by suitable landscape and monumental treatment of its parks and streets.

YORK MINSTER RESTORATION.

GOOD progress is being made with the work of repair and restoration at various parts of the Minster, says the *Yorkshire Herald*, but particularly on the north side where the pinnacles and flying buttresses are being completed. Two of the beautifully proportioned pinnacles in continuation and completion of the massive buttresses have been finished, and although the scaffolding still surrounds them' their graceful tapering lines can be readily seen. The first of the flying buttresses has also been completed, the massive arched structure spanning the space from the base of the pinnacle to the projecting studs on the pilaster originally designed and formed on the nave walls to receive the upper end of the curved buttress. The arching is so skilfully keyed and balanced that the buttress really carries its own weight, thus avoiding anything in the nature of thrust at either end.

The stones for the second flying buttress are all prepared, and many of them are on the staging ready to be placed in position. It is evident that the effect of this part of the restoration is to add immensely to the dignity and grandeur of the Minster on both the north and south sides, and that the present and future generations are to be privileged to see what many past generations have not witnessed, a complete Minster. The work on the south-western tower is being concurrently proceeded with, and the scaffolding is gradually descending. The scaffolding for the first flying buttress on the south side is in position. Much good and absolutely necessary work is being done at the east end of the building, particularly in the steps taken for preserving the stained glass and leading, which is in a very bad state in many of the most valuable and important windows.

Mr. Thomas Edward Knightley, of Clive House, Tulse Hill, London, and of 106 Cannon Street, London, architect and surveyor, has left estate valued at 35,256*l*.

NOTES AND COMMENTS.

An inquiry has been conducted in private by Major Gillette, of the Corps of Engineers, and Mr. Maclennan into the extravagant outlay on municipal works in Philadelphia. They have ascertained that 18,760,000 dols. was paid for works which cost the contractors only 12,356,000 dols. The parts of the works which the public see are said to be fairly well done, other parts are not up to specifications, but much remains which could be only partially examined, and what was seen was found to be only second-class or worse. The specifications were unusually exacting, but the work could not be of a cheaper kind without jeopardising the structures. The principal cause of the defective work is said to be the absence of fair competition. The advertising for tenders was only a pretence, for it was withheld from the journals which contractors examine for announcements of proposed works. The specifications relating to filter beds and a reservoir filled 112 pages of type, and there were 43 sheets of drawings. It was impossible in the short time allowed to make a sufficient examination of those documents. In conclusion, it is said that a proper distribution of the construction work by means of itemised bids by contractors who had made a specialty of particular branches would have insured to the city a completed system of first-class work. No one contractor or firm of contractors is likely to possess the experience and ability to cope with all the many varieties of construction work involved.

The report of the Birmingham Master Builders' Association refers to the signs of activity among manufacturers, and a more prosperous state of affairs in the building trade is anticipated. The committee had decided, after careful consideration, to refrain from disturbing the trade by giving notices to the operatives of any alterations in working rules, although, in their opinion, existing circumstances would have justified notices being given for a reduction in wages. The claims of the national reserve fund of 10,000*l.* had already been brought to notice. Up to the present promises and contributions had been received from members amounting to 416*l.* 6*s.* 6*d.* The total amount allocated for collection in the Midland area was 1,600*l.* The committee strongly appealed to those members who had not yet promised a contribution to give the matter their prompt consideration, as it was felt very desirable that all members should interest themselves in the project, which was undoubtedly of great importance to the trade. It was hoped that the Birmingham Association would show such a lead as would insure the collection of the sum allocated to the Midland centre. A set of rules had been agreed to by the members of the National Federation and the various societies of operative masons, carpenters and bricklayers for the establishment and government of conciliation boards in the building trades, with a view to obtaining an amicable settlement of disputes without resorting to strikes or lock-outs. The committee had arranged with the above-mentioned branches of the trade for these rules to apply in the Birmingham district. It was hoped that they would bear in mind the desirability of urging all suitable members of the trade to become members of the Association.

A fire which occurred in Albert Buildings, Queen Victoria Street, on the 5th inst., was inquired into in the City Coroner's Court. The fire began in the basement and was ascribed to a short circuit in the electric light. It quickly reached the well of the lift, which was lined with wood, and by that channel ascended to the top of the house. The building contained no less than fifty offices. It was stated by one of the fire officers that those who were employed in the offices, numbering over 120 persons, would in the event of a fire happening in the day be unable to escape by means of a staircase. Their only safety would be found in the wide ledges which surrounded the building or the parapet. The jury came to the conclusion that the means of escape from the building were totally inadequate, and recommended that all electric wires should be encased in metallic tubing, that the lift should be encased in fire-resisting material, that a strong iron railing should be placed outside the building along the parapet, that iron escape ladders should be fixed, and that an additional staircase should be provided to serve the other end of the building.

The subjects for discussion at the International Congress of Architects, which will be held in London from July 16 to 21, 1906, will be:—(1) The execution of important Government and Municipal Architectural Work by Salaried Officials. (2) Architectural Copyright and the Ownership of Drawings. (3) Steel and Reinforced-Concrete Construction—(*a*) The general aspect of the subject; (*b*) With special reference to æsthetic and hygienic considerations in the case of very high buildings. (4) The Education of the Public in Architecture. (5) A Statutory Qualification for Architects. (6) The Architect-Craftsman: How far should the Architect receive the theoretical and practical training of a Craftsman? (7) The Planning and Laying-out of Streets and Open Spaces in Cities. (8) Should the Architect have supreme control over other Artists or Craftsmen in the completion of a National or Public Building? (9) The Responsibilities of a Government in the Conservation of National Monuments. The executive committee will be glad to receive papers on any of the above subjects for presentation to the Congress. Papers may be written in English, French or German. Each paper must be accompanied by an abstract of not more than 1,000 words. Papers and abstracts must reach the executive committee before April 30, 1906. All communications to be addressed to the Secretary of the Executive Committee, 9 Conduit Street, London, W.

ILLUSTRATIONS.

MOUNT MELVILLE, ST. ANDREWS, N.B.: VIEW FROM SOUTH-WEST.

CATHEDRAL SERIES.—WAKEFIELD: ALTAR AND REREDOS.

LAMBETH NEW MUNICIPAL BUILDINGS.

DESIGN FOR PROPOSED HYDROPATHIC ESTABLISHMENT AT HAYWARD'S HEATH, SUSSEX.

NEW CHURCH OF ST. THOMAS, EAST KIRKBY, NOTTS.

This church was consecrated in May 1903. Sitting accommodation is provided for 360 adults, the congregation being entirely seated in the nave, the aisles being merely passages about 4 feet wide. The principal entrance is at the west end, facing Lowmoor Road, the highway between Nottingham and Mansfield, and an internal porch is formed by a screen and swing door. A low, broad treatment has been adopted throughout in the design of the building and all its details and fittings. The walls are of brick, with local red brick facings and Weldon stone dressings, the internal piers, arches and corbels being of Ancaster stone, and the walls plastered and duresco-washed light olive-green. The roofs are of pitch pine, stained brown, and are covered with red tiles, the turret roofs being covered with lead. Messrs. Thompson & Sons, of Louth, Lincolnshire, were the contractors for the general work, and the seating (of pitch pine stained brown), also the choir seats and pulpit, which are of oak. The carving, both wood and stone, was executed by Mr. Tuttell, of Lincoln. The dorsal hangings and the materials for the altar frontal were supplied by Messrs. Morris & Co., and the frontal was worked from the architect's designs (with some variations) by the ladies of the Southwell Diocesan Embroidery Guild. The boundary wall and gates were carried out by Messrs. G. Hopewell & Son, of New Basford, Nottingham. The total cost of the whole of the work was between 5,000*l.* and 6,000*l.* Mr. D. Davies was the clerk of works and Mr. Louis Ambler, F.R.I.B.A., of London, the architect. The illustrations appeared in our issue of the 27th ult.

THE SOCIETY OF ARCHITECTS.

HE following address was delivered by the president, Mr. A. E. Pridmore, C.C., F.S.I., at the meeting on vember 16:—

I respectfully beg leave to thank you most sincerely the high honour you have unanimously conferred on me by electing me your President for the ensuing ar, and to express to each of you that I am sensible of obligations imposed upon me by the acceptance of the sponsible and dignified position in which you have placed . Many distinguished men have preceded me in this esidential chair, who have all contributed their quota vards raising the status of our Society to the proud sition it occupies to-day, and it is my fervent wish to ulate them, and to endeavour to do my utmost for the nefit and progress of this Society, which has now ne of age and has arrived at its majority among the hitectural societies of the country. It would therefore pear to cast a heavier responsibility upon us than herto.

I consider it my duty to pay a cordial and well-merited npliment to my immediate predecessor in office, Mr. W. Thomas, of Liverpool, a leading member of our fession practising in the provinces, and in doing so I st to also convey the feelings of every member in nking him for the energy that he has displayed in thering the best interests of the Society during his o years' occupancy of the presidential chair. I shall y on receiving the support, co-operation and assistance the officers, Council and members generally in carrying t my duties during my year of office. I desire to express appreciation of the excellent services rendered to the ciety by our esteemed honorary secretary, Mr. Ellis rsland, who is never weary of advancing in every ssible way our interests; and further, it is with pleasure efer to the devotion of Mr. C. McArthur Butler, our most entive secretary, who has for many years gained and joyed our confidence. Since last year a few changes have en place in the representation on the Council, and I bt not that every member of the Society will recognise good services of the retiring gentlemen and at the same ne give a hearty welcome to those who for the first time ve a seat on our governing body.

The Inception of the Society.

Now that we have reached our majority, may I ask you bear with me whilst I briefly recall what has happened in history during that period. As you are aware, the ciety was founded in 1884 and incorporated by the Board Trade in 1893. A representative body of architects met London in 1886, when it was determined that it would in the best interests of the profession to make it com- lsory for all architects to hold a Government diploma d that a committee should be formed to consider the best ans to obtain an Act of Parliament for that purpose. circular was then issued to some 2,500 architects ctising in the United Kingdom, with a request to sign, they thought fit, a declaration in favour of obtaining islative powers making it obligatory that all persons eafter entering the profession should be duly qualified examination and that a committee should be formed to pro- te the objects in view and to obtain, if possible, the neces- y Act of Parliament. Some 1,300 favourable replies having n received the "Architects' Registration Bill Committee" s formed, by whom a Bill was introduced into Parliament 1887, which included architects, civil engineers and sur- ors. The two latter professions raised certain objections d a fresh Bill was introduced, dealing only with archi- ts. The Society has always been in favour of statutory istration, to enforce, in the interests of our own pro- sion as in the interests of the general public, that only n of proved competence and ability should be permitted practise. At the present time, unlike many other pro- sions, anyone may style himself an architect, however ompetent, and as the members are aware, we frequently l ourselves supplanted by a builder, decorator, estate nt or undertaker, calling himself an architect. This lies more particularly to the provinces. The Society been most persistent and energetic in its attempts to ure the passage of a Bill to compel registration, and Bills e been introduced from time to time and the last was down for second reading in last session, but owing to ssure of public business, unfortunately was not reached. ecember 1902 the Architects' Registration Bill committee amalgamated with the Council of the Society of Architects general registration committee under the chairmanship of the President of the Society for the time being. It has since been ascertained that about two-thirds of the members of the profession have declared themselves in sympathy with the movement for obtaining the statutory examination and registration of all persons entering the profession. The Society has taken much interest in the measure, and is determined to do all in its power to place it on the Statute Book. We believe that the whole of the architectural societies of the country will assist in securing the passage of this desirable measure, which we should hope would have the attention of the next session of Parliament. I think it only fair to say that the initial movement emanated from our Society. In July of next year the International Congress of Architects will be held in London and the Society should be represented by delegates, and one of the questions for discussion should be "registration."

Progress and Development.

It is very gratifying to find the progress the Society has made, both in respect of membership and importance. During the past year there has been an unusually large number of applications for admission to membership, and seventy-five gentlemen have been elected. The register of students has also been increased by twenty. There are now between 700 and 800 members of the Society, and this number might have been largely augmented had it not been for the vigilance displayed by the Council in exercising their choice as to applications for membership of those whose credentials and capabilities were such as to justify their inclusion in our ranks. Seven years ago the Society had a deficit of 150*l.* Now we have a reserve fund of upwards of 1,100*l.*, and while congratulating the Society on such a result, I desire to express the hope that the Council will continue to give discretionary financial support in every possible way towards the progress and interests of the architectural profession, in order that it may be of exceptional benefit to our members. The Council, I am glad to state, did not hesitate to cheerfully give a liberal contribution towards attempting to get a reversal of the judgment as to the ownership of drawings in the case of Gibbons *v.* Pease, but unexpectedly, the appeal was unsuccessful. A donation was also made by the Society towards the Building Fund of the Architectural Association.

The Library.

We have at present a nucleus of a library containing over 500 volumes, which is being constantly added to by contributors. May I remind members that most of the books may be borrowed and that in the case of those residing at a distance the volumes can be sent by post? Our energetic hon. librarian (Mr. R. G. Bare) will be pleased to receive contributions of books or drawings from members. The Society purchases the most recent works on architecture and its allied arts and sciences.

Social and Benevolent.

I hope that many of our members and their friends will join our next summer excursion. The outing to Chester and Liverpool this year was a great success, and proved itself to be very instructive through the interchange of ideas of architects assembling from different parts of the country, many of them accompanied by their wives and friends.

I should like to mention the appeal that has recently been made by Mr. Jno. Belcher on behalf of the Architects' Benevolent Society, and to express the hope that as many members who feel that they can do so will support this excellent Institution, which is to assist architects, architects' assistants and those dependent on them, who are in adversity or distressed circumstances. I hope, therefore, that our members will do their part towards increasing the fund, to which our Society contributes.

Legislation and By-laws relating to Building.

I can hardly deliver an address without referring to the Building Acts Amendment Bill, which was brought in by the London County Council during the last twelve months, and which met with so much opposition throughout the Metropolis. We are all acquainted with the parent Act of 1894; it embodies, as you are aware, practically all the Acts of Parliament relating to metropolitan buildings passed during the preceding half-century. Its preparation was the result of many years deliberation by qualified authorities. It embraces the whole scope of modern building legislation, and yet within ten years of it becoming law the London County Council thought it necessary to introduce on its own initiative an amending Bill, a Bill of the same wide scope as the Act of 1894, and embodying fresh and novel legislation of a drastic character.

I say without hesitation that the County Council were ill-advised in introducing that measure. It was altogether contrary to the spirit and intention of the Legislature, and of the framers of the previous Acts dealing with buildings in the Metropolis, in that in all previous statutes adequate provision for compensation had always been provided for, where acquisition of property or interference with legal rights had been found necessary in the public interests.

One can realise the object of the County Council in its endeavour to secure wide and straight streets at the cheapest possible cost, but it is not too much to say that that Bill was, in fact, an attempt to improve the Metropolis at the expense of the owners and occupiers of London.

You will all recollect the agitation and opposition which was created by the introduction of that ill-advised measure and its fate.

The London Building Acts (Amendment) Act of 1905, which comes into force on January 1, 1906, is a modest measure of some 43 sections instead of 196 included in the first proposed Bill. Its effect is limited to secure the provision and maintenance of proper means of protection and escape in metropolitan buildings in case of fire.

It will be conceded that the Act of 1894, carefully drawn as it was, required some amendment with reference to this division of that statute, and I think it will be admitted that the framers of the Act have reasonably dealt with the requirements of the public. It is, however, clear that when that Act comes into operation next year property owners and others interested in buildings throughout the Metropolis will be compelled to incur considerable expense in carrying out the requirements of the London County Council.

I am very glad to be able to say that appeals under this Act by any interested party who may feel himself aggrieved are still to be made to the Tribunal of Appeal as constituted under the Act of 1894.

Although it is reasonable to assume that considerable litigation will follow the introduction and application of this Act, and that we, gentlemen, as architects and surveyors, undoubtedly will benefit, yet it is obvious, I think, that the interests of our profession are so closely allied with the interests of the property owners, that we must as a Society be always ready to oppose unwise, arbitrary, or ill-conceived legislation.

Should, however, the County Council repeat their experiment and introduce Bills of the same drastic character as their proposed measure of last year, without consulting the interests of property owners and without consulting the authorities, including this Society, I am satisfied that they will meet with similar or even greater opposition than they have already experienced.

The rigid by-laws relating to buildings for the working classes in rural districts (sanitation excepted) do not appear to be for the common benefit, and many of them should be relaxed so as to enable landed proprietors and others to construct buildings suitable for the purposes for which they are required. If such were so cottage architecture would be much more picturesque, adding charm to our country side.

Mr. Justice Grantham has rendered a national service in the steps which he has taken in this matter, and his views have been applauded and endorsed by the majority of those who thoroughly understand the benefits to be acquired. I think it would be wise in case of a building owner not being satisfied with requisitions made by a rural council that he should have the right to appeal to the County Council.

Ancient Lights.

It is gratifying to find that the judgment of the House of Lords, in the case of Colls *v.* The Home and Colonial Stores, has been the means of largely reducing litigation, and has placed building owners in a much better position than heretofore in developing their property.

Municipal Engineers and Surveyors.

As there is a growing tendency on the part of municipal authorities and education committees to allow the engineers and surveyors in their service to do architectural work, the Society has consequently prepared and issued a circular to these bodies advising the employment of efficient and fully-qualified architects to design and carry out municipal buildings, where no architect, properly so-called, is retained by them, as such procedure would be a benefit to the public and also to architects practising in the locality.

Advice to Students.

In addressing students, at the same time addressing the whole of the profession, for *primâ facie* we are all students till the end of our lives, and speaking as one midway between entering the profession and departing from it, I am pleased to express to you to-night what I should do supposing I had to start my career anew. The first thing that a student should learn, and which he must learn in his very earliest days, is to draw. Drawing is to a very great extent a natural gift, as music is. If the student is naturally gifted he should develop those gifts to the very utmost; others should endeavour to improve themselves as far as they possibly can whilst they are young. The architect should always regard drawing and designing as his characteristic. No architect's office requires so many assistants as heretofore, in consequence of one tracing only being necessary, the remaining copies being printed, but those employés have to be of the best, as the work that the assistant has to do now is not mechanical, the duplicating being done by the printers or lithographers. Skilled assistants are therefore more in demand to-day than heretofore. My advice to students is that they should make themselves reliable in the preparation of their drawings so that they may be sent to the lithographers immediately after having been examined and approved of by their principal. Secondly, I should advise the student to devote great attention to geometry, which would be the next step between what is usually called fine art and practical drawing. If he gains a good knowledge and excels in geometry it will carry him through many difficulties in after life, saving him much time by the aptitude and celerity with which he will be enabled to prepare his drawings, and, further, they will also be found more accurate if he knows how to set out his drawings on some fixed notion and intention. Thirdly, the student should endeavour at all times to bring himself into direct contact with the materials which he will have to deal with during his career. Unfortunately it is not the general custom for articled pupils or students to serve time on works in this country, and therefore in many cases the student does not come into touch with the practical side of his profession, such as is customary in foreign countries. It would be well if every student devoted some portion of his studies to handicraft, preferably joinery, because the work of the joiner brings one into touch with almost all the other trades. Fourthly, the student should acquire a knowledge of building construction in all its details, and at the same time endeavour to learn to take out quantities so that the two may go hand-in-hand. Fifthly, he would do well for him to acquire a knowledge of measurements and valuation so that he might be enabled to estimate the cost of any given work. As soon as he does this he should use his own intelligence in deciding in what direction his studies should lie. He will evidently not succeed in after life in every branch of his profession, although he may have a good average knowledge of every one of them, and assuming that he has acquired a fair knowledge of every branch and excels in some of them, he will discover that the greatest acquisition of all is to be a business man, which means that he will then be enabled to insure a remuneration for his training. Business acumen, a good correspondent and an intimate acquaintance with Acts and by-laws relating to building will pave the way to his success in practice, and if he adds to that cheerfulness and gentlemanliness it will very much increase his chances of success on meeting all sorts and conditions of clients such as one has to do in business.

This is as a mere outline of my own general advice to students, and I sincerely hope that the suggestions made may be of some value to those who require words of experience to guide them in the way of how best to economise their time, and to devote themselves to the study of those subjects which show most possibilities of success in accordance with the talents which the student possesses.

Examinations.

Some years ago a test for qualification for membership was instituted in the shape of an entrance examination which we now hold twice a year in London and the provinces, which is being extended to India and South Africa. The examination is of a high standard, requiring candidates to prove themselves efficient in all the subjects an architect should be most conversant with.

London Street Improvements.

Referring to the metropolitan improvements which have been effected for the public benefit, it may be borne in mind that there are areas that might advantageously be acquired for public improvements, which would get rid of slums, and by the rearrangement of the sites would develop into profit to the ratepayers. The Corporan of the City of London, the London County Council, the ty of Westminster and the Borough Councils all desire to omote schemes for the public convenience ; at the same ne they are cognisant of the fact which must always be membered that there is a limit to the money the present er-burdened ratepayer can possibly afford. These im- ovements being of permanent benefit and value to pos- ity, the repayment of capital and interest on the cost in e widening of main thoroughfares should be deferred to e greatest number of years allowable. Improvements rried out in the City of London and the chief centres of e West End cost enormous sums in consequence of the eat and still increasing value of the land and the many de and other interests that have to be acquired ; never- eless the Corporation of the City of London and the ndon County Council have been and are still dealing with essing improvements of immense importance having due gard to the vast sums of money required to effect them. e of the most important improvements deserving imme- ate attention is the main thoroughfare connecting the rth of London with the City at the north end of Bishops- te Street Without. Part of this improvement has been rried out by the clearance of numerous dilapidated houses order to permit of the erection of the terminus buildings the Great Eastern Railway at Liverpool Street, which sulted in the thoroughfare being partially widened, but t, however, right through. The remaining houses, which ould be removed, are a source of danger, not only to the cal traffic but also to the metropolitan traffic to and from e north of London. This much-needed improvement has en carefully considered by the Corporation of the City of ndon and I hope its accomplishment is near at hand.

In the Royal Commissioners' recent report on London provements is a statement that "several German cities vy no rates because long ago they foresaw the direction the growth of the suburbs, acquired land for new roughfares and bought cheap land, the rents of which w pay for all the public services." The Royal Com- issioners have certainly omitted to take into consideration e enormous land values of the parks situate within the etropolis, which, if let on building leases, would probably oduce enough in some boroughs to pay all the rates, yet t one borough would vote to sell its parks even if such ere permissible. London is not densely populated as mpared with most capitals; certainly it has narrow eets, but, taken per square mile, possesses exceptional ount of breathing space, hence one reason for its althiness. The area of greater London is 693 square iles, with a population in 1901 of 6,581,373, that is an erage population of 9,496 per square mile. The City of ndon, usually called the one square mile, had in 1901 a eeping population of 26,923, or on the average almost ree times as many as greater London.

The great area covered by London is caused by the mass its population preferring to reside in villas rather than ts, the latter, according to English ideas, being regarded unsuitable for children; industrial dwellings are sad akeshifts for either cottages or small villas, which require oportionately more road than flats, and, comparing London th other capitals, I may safely venture, without calculation, state that London has more road area to keep up per head of pulation than any other capital. Unfortunately London s few continuous wide and direct thoroughfares, which its chief defect and which the underground communica- ns do not relieve because they do not take the vehicular affic. We have to-day no Sir Christopher Wren to advise w to make London more convenient, comfortable and autiful. It is without doubt more a matter for architects d surveyors to be entrusted with than engineers, as most the ugliness of London may be attributed to the engineers o have constructed railway works. The railway bridges er the Thames at Cannon Street and Charing Cross and ose over Ludgate Hill and Queen Victoria Street are sightly productions which we all deplore exist. How- er, the bridges over the Thames, which spoil the beauty our greatest river, might possibly be adorned by an chitect of skill; but the Ludgate Hill and Queen Victoria reet bridges should be removed, and I venture to guess that would prove to be a financial gain to the railway company St. Paul's station were enlarged and made the terminus, e remainder of the line to Holborn Viaduct being rein- ated with business premises. The improvement to the ty would be immense, and would permit of Ludgate rcus being opened out in the rearrangement of the pro- rties.

I am opposed to the widening of Blackfriars Bridge by adding a few feet to it, as was done with London Bridge. A new bridge is necessary to cross the river at Temple Pier about midway between Waterloo and Blackfriars bridges, with a street to the central entrance of the Law Courts in the Strand one way, and a street to St. George's Circus, Southwark, the other; this would link up with Aldwych. But to carry this scheme out in its entirety, the church of St. Clement Danes, which is externally far from pleasing and stands awkwardly in the road, should be taken down, retaining the tower. London is seriously underbridged, and new bridges should be erected and architects appointed to assist in designing the architectural features and details of them.

Constitution Hill should be widened at once to the same width as The Mall. The land taken off the Green Park to carry this out would not be missed, but it would add exceeding dignity to the vicinity of Buckingham Palace, and could be carried out at comparatively very small cost considering the improvement which would be effected.

The Westminster proposed improvement is not far-seeing, as there may be a time when even the Houses of Parliament may require extra buildings and evidently the proper place for such buildings would be facing the river Thames, and therefore the Victoria Tower Gardens should be continued the same width along the new Embankment, skirting the Thames as far as Horseferry Road, and Abingdon Street would follow them as far as Horseferry Road and be parallel to the line of the Thames Embankment. Further, Horseferry Road may in the future become a main thoroughfare, in conjunction with the Lambeth Road on the Surrey side, and 50 feet is insufficient. It should certainly be nearer 100 feet in width than 50 feet, and Lambeth Bridge should be reconstructed during the next decade to conform with the streets on either side of the river, and should be made one of the most important bridges of the Metropolis, and thereby relieve the traffic over Westminster Bridge and beautify the surroundings of the Houses of Parliament.

Whilst thoroughly appreciating the thoroughness with which the London County Council and other authorities have dealt with the question of London improvements, as evidenced by the grand thoroughfares known as Kingsway and Aldwych, recently opened by His Majesty the King, it is earnestly to be hoped that the London County Council and all other administrative bodies will work in harmony and willingly unite in doing their best for the convenience and benefit of the inhabitants of the Metropolis as a whole.

Paris, Brussels and other cities which have been remodelled during the past century have lost much of their picturesqueness through making all streets straight and of uniform width, and the buildings of the same height. This monotony is not to be found in London and I hope never will be; for London is fast becoming a most beautiful, picturesque and most comfortable city. The view from Waterloo Bridge early in the morning when the sun rises behind St. Paul's Cathedral is a sight that is unsurpassed in beauty and once seen is never to be forgotten.

Special Committee.

It has occurred to me that, as an important professional body, we might have a special committee charged with looking into and reporting on all projected improvements initiated by any local governing authorities and offer them our opinion on their proposals.

The New Sessions House,

commonly called the Old Bailey, is rapidly nearing completion, and I should esteem it a great favour to have permission to visit the building at an early date.

L. C. C. New Offices.

Many important proposals are in contemplation, not least of which are the new offices of the London County Council, which it is suggested should be on the Surrey side of the river. It would appear to be but just that some important public and metropolitan buildings should be situated on the Surrey side of the Thames.

Conclusion.

I have addressed you, gentlemen, as a London architect not as a provincial one, but two of my immediate predecessors in the chair were provincial men and consequently my address has been restricted more than usual to matters relating to the Metropolis.

May I state that the fine arts and literature are the chief characteristics of every nation's greatness and many of our English architects have left footprints on the sands of time?

Our Sir Christopher Wren has bequeathed to us St. Paul's Cathedral, and Sir Charles Barry the Houses of Parliament, specimens of ecclesiastical and secular architecture unsurpassed in any age or clime. Architecture may fairly claim pre-eminence in the fine arts, for men travel all over the globe to see the glorious, beautiful and picturesque attainments of architects. Therefore we may congratulate ourselves that we are members of a profession which provides unrivalled pleasures for mankind, and as we cannot all be great architects, let us all strive to be greater architects than we are.

WATTS EXHIBITION IN DUBLIN.

AFTER consultation with Sir Walter Armstrong, Sir Thomas Drew and Sir Horace Plunkett, Her Excellency the Countess of Dudley approached the trustees of the Watts Bequest a short time ago with a view to securing a selection of the pictures of the greatest poetical painter of the nineteenth century, G. F. Watts, R.A., for a loan exhibition in Dublin. The request was granted, and the selected pictures will be available for exhibition in Dublin at the end of the year.

It is believed that such an exhibition will be of incalculable advantage to the Irish artistic revival. The historical importance of Mr. Watts's works, the high aim of his art and his unrivalled success in combining æsthetic qualities with poetical vision and lucid allegory are too little known in Ireland; yet the Celtic mould of his imagination would have a peculiar interest for and power over the minds of the Irish people. Not only is the present time opportune for such an exhibition, but it is a case of now or never, owing to the fact that a large proportion of Watts's pictures are destined for the gallery built by him at Limnerslease, in Surrey.

On the invitation of Her Excellency, Sir Walter Armstrong, Sir Thomas Drew, Sir Horace Plunkett, Mr. S. Catterson Smith and Mr. Walter Callan are taking measures to form a large and influential general committee, a meeting of which it is proposed to hold at any early date. It is confidently hoped that the permission of the Royal Hibernian Academy may be obtained for the holding of the exhibition in their galleries.

The cost of bringing the pictures to and from Dublin, their insurance and other incidental expenditure will be about 400*l.*, and the holding of the exhibition is dependent on a guarantee fund for that amount being immediately raised. In view, however, of the large attendance at former loan exhibitions in Dublin, and of the exceptionally interesting nature of this exhibition, it is confidently expected that the call, if any, upon the guarantors will be very small. Those willing to guarantee are requested to communicate with any of the promoters, stating the amount for which they are prepared to be responsible.

EGYPT EXPLORATION FUND.

THE nineteenth ordinary general meeting of the Egypt Exploration Fund was presided over for the last time by Sir John Evans, F.R.S. It was stated that the total expenditure had been 3,215*l.* The receipts were 2,300*l.*, including a contribution of 534*l.* from the United States. The deficit was 914*l.* The assets of the Fund and its branches amounted on July 31 last to 2,377*l.* Two years ago there was a balance of over 3,000*l.* This result was largely due to the decrease in the American contributions.

The President said that work had been carried on in two directions. First, by Professor Petrie, principally in Sinai; and, secondly, by M. Naville and Mr. Hall at Deir el Bahari. They were greatly indebted to the Trustees of the British Museum for facilities afforded to Mr. Hall. Important work had been done by explorers entirely independent of the Fund—by Mr. Theodore M. Davis, a member of the American committee, and Mr. T. E. Quibell in a branch valley of the Tombs of the Kings, and by M. Legrain at the Temple of Karnak. Sir John Brunner had generously given 1,000*l.* to the Institute of Archæology in connection with the University of Liverpool, with the special object of securing the services of Mr. Percy Newberry and Mr. Garstang. By the liberality of Mrs. Hearst, Dr. G. A. Reisner had been able to continue his exploration to the north of the great Pyramid of Gizeh. The Sirdar (Sir F. R. Wingate) had borrowed the services of Dr. Budge for the examination of the pyramids of Gebel Barkal and the island of Meroe. Mr. N. de Garis Davies had been occupied at El Amarna, and Drs. Grenfell and Hunt at Oxyrhynchus.

Professor Flinders Petrie delivered an address, in the course of which he said:—As it was impossible to conduct any large excavations, like those at Abydos, with the small resources which could be spared from other work of the Fund, the scope of my party last winter lay rather in copying than in excavation. A much neglected site, which was suited to such work, was found in Sinai, where no attempt had been made to clear the temple of Serabít, and no copyist had stayed more than a day or two. This work which we had in view was further facilitated by the elaborate compilation of the inscriptions from all existing sources by Captain R. Weill; and the author requested to join our party, and assisted in checking copies while he was with us, during the earlier half of the season. Mr. Currelly went to Koptos and recruited twenty-eight workmen, then marched them to Qoçeyr, went 200 miles up the Red Sea by boat, and finally marched from Tor to Maghareh. We turned over many of the mining heaps of the Egyptians at Maghareh, and settled that they only worked there for turquoise. The inscription of Semerkhet of the first dynasty was refound, drawn and photographed. A new inscription of Sa-nekht, the founder of the third dynasty, was discovered; it shows that this king was of strongly Ethiopian type, thus suggesting a southern invasion at that time. The inscription of Zeser was also refound and drawn complete. The later inscriptions from Khufu to the twelfth dynasty had been mainly destroyed by recent mining; on my reporting this, Sir William Garstin provided a credit for the removal of the sculptures to Cairo, and Mr. Currelly undertook that work successfully after our excavating season was over. At Serabít el Khâdem we cleared out completely all the temple and its surroundings. The evidences of Semitic worship were prominent here, in each respect being of a kind unknown in Egypt. Three large lavers were placed in the temple, and another at the door; these were evidently for ceremonial ablutions, as the two largest chambers of the temple had a laver in the centre of each, surrounded by four pillars. Such ablutions as a main feature in a temple are unknown in Egypt, but are essential in Jewish and Muslim worship. The study of the records of the expeditions will throw light on various titles and on the Egyptian organisation. We have thus not only cleared an important outlying district where Egypt was long dominant, but have obtained unexpected light on Semitic ritual, older than any traces in Palestine and Arabia. And now, my friends, I have to say farewell to you. For nine years past we have worked together; the discoveries in the early dynasties of Egypt, and the development of the prehistoric civilisation will ever be the monument of those fruitful years that we have spent. Though I say farewell, on the one hand, it has only been to welcome, on the other hand, most of my friends on your committee and elsewhere, who have continued to heartily support my work on its new basis; and, to my surprise, I shall be able to excavate on a larger scale than during the past two years. We can, therefore, all be pleased with the outcome of what looked a bad prospect five months ago. You have the whole resources of the Fund for Dr. Naville's work, and I have already secured a solid basis for my coming search for shepherd kings, Israelites, or what not of Semitic invaders, along the east of Egypt and Goschen. What the future years may bring about we can none of us descry. In the British School of Archæology in Egypt, now formally named, I shall continue to train students as I have done in the past; and we may hope that this school may co-operate with the Fund, much as the British School of Archæology at Athens has worked with other exploration funds.

Dr. B. P. Grenfell gave an account of Dr. Hunt's and his own excavations last winter at Oxyrhynchus. They dug in the usual way for nearly four months and finished the northern part of the site, meeting with considerable success; in fact, on some occasions the stream of papyri became quite a torrent, recalling the palmy days of their first excavations in 1897. The papyri mainly belonged to the first four centuries of the Christian era, with some admixture of both earlier and later ones, including a certain number of Hebrew and Syriac fragments which, since they could not be later than the fifth century, had much palæographical value. The present generation had seen the rise of Egypt to the forefront as a unique field for recovering the lost Greek classical and early Christian literature. It had witnessed the discovery of those immense masses of Greek papyri which were making our knowledge of the political, economic and social life of Ptolemaic and Roman Egypt far more detailed and complete than was the case ith any portion of the ancient world. As was remarked him two years ago by the great historian, Mommsen, a w weeks before his death, the place in the study of history id archæology which had been occupied during the nineeenth century by Greek inscriptions would be taken in the ventieth by Greek papyri, that study of which Mommsen as among the first to herald the importance, though, as he aid sadly, it had come too late for him. Hitherto, in the omain of Greek papyri, the larger portion of the spoil had llen to this country, and the publications of Dr. Kenyon, r. Mahaffy and Professor Smyly, together with those of r. Hunt and himself, had made England pre-eminent in iis department of archæology. He would, therefore, ask ll who cared for antiquity this question, "Do you wish the re-eminence of this country to be maintained, or are you ontent that for lack of funds the work of English archælogists should be stopped, and the supply of papyri henceorth diverted to the Continent?"

ROYAL SCOTTISH ACADEMY.

THE following annual report of the Scottish Academy has been submitted to the Assembly of Academicians :—

The Council for the year ending November 8, 1905, have report to the Assembly of Academicians as follows :—he seventy-ninth exhibition was opened on Saturday, anuary 28, and was closed on Saturday, June 10. It comrised 422 paintings in oil and water-colour, 54 works in culpture, 95 architectural drawings, models and photoraphs of architectural works executed by exhibitors, tchings and enamels. In accordance with the custom of xhibiting works by recently deceased members, the ouncil obtained a large representation of the works of the ate Erskine Nicol, R.S.A.; D. W. Stevenson, R.S.A.; V. F. Vallance, R.S.A.; Arthur Melville, A.R.S.A.; James rcher, R.S.A.; and George A. Lawson, *H.*R.S.A. The ouncil have pleasure in reporting that the increased nterest taken recently by the public in the exhibition has een maintained.

The banquet took place in the galleries on the eve of the ublic opening of the exhibition, when the President and ouncil had the honour of receiving a large and distinuished company.

The Council have to report that an evening reception vas given by the President and Lady Guthrie on Febuary 24, when they received a large and representative umber of guests. By the courtesy of the Board of Manuactures, the rooms of the National Gallery were on the ccasion *en suite* with those of the Academy.

At the statutory general assembly of the Academy, held n February 8, Edward Arthur Walton, William Birnie Rhind and John Kinross were elected to the rank of cademician.

The librarian and curators of the library report as ollows :—

Owing to the continuance of the special arrangements in onnection with the annual exhibition, alluded to in last ear's report, the library was open only from Monday, November 14, 1904, till Monday, January 9, 1905. The verage attendance was good, mostly of students and former tudents of the Academy's Life School. The books, drawngs and prints are in good order, and catalogued up to date. There have been added to the library, in addition to the arious art periodicals, &c., the following works :—"Catalogue of the Collection of Pictures of the French, Dutch, British and other Schools, belonging to W. A. Coats," rinted for private circulation, Glasgow, 1904—presented y W. A. Coats. "Academy Architecture and Architectural Review," 1905, edited by Alex. Koch, architect, sup. royal vo—presented by the editor. "Ermitage Impérial : Catalogue de la Galerie des Tableaux, premier vol.; les Ecoles d'Italie et d'Espagne," Saint-Pétersbourg, 1891; "Ermitage Impérial : Catalogue de la Galerie des Tableaux, second vol.; Ecoles Néerlandaises et Ecole Allemande," Saint-Pétersbourg," 1895; "Ermitage Impérial : Catalogue de la Galerie des Tableaux, troisième vol.; les Ecoles Anglaise, Française, et Russe," Saint-Pétersbourg, 1887; "Ermitage Impérial : Collection des Dessins," Saint-Pétersbourg, 1867—presented by W. D. M'Kay, R.S.A. "English and Scottish Wrought-Iron Work," by B. S. Murphy, Edinburgh, 1904—resented by John Kinross, R.S.A. "The Illustrated Catalogue of Pictures of Siena and Objects of Art," Burlington ine Arts Club, 1905—presented by Sir Thomas Gibson armichael, Bart. "Extracts from the Records of the Burgh of Glasgow, A.D. 1663-90," Glasgow, 1905.

The thanks of the President and Council were duly conveyed to the respective donors.

The following additions have been made to the Academy's collection of works of art during the past year :—"Portrait," by E. A. Walton, R.S.A. (diploma work); "Samuel," marble, by W. Birnie Rhind, R.S.A. (diploma work); "Architectural Drawing," by John Kinross, R.S.A. (diploma work).

Report of the Visitors to the Life School of the Royal Scottish Academy :—

"The session of 1904-5 commenced on November 14, 1904, and finished on June 30, 1905. There were 124 meetings of the class, viz. 64 evening and 60 morning meetings, and the aggregate attendance amounted to 1,420. The visitors to the Academy's Life School have pleasure in reporting on its extended usefulness, in the increasing number of students attending. The standard of work is being maintained, and the stimulus given by the annual award of the travelling scholarships has a beneficial effect. The President's monthly prize is an interesting feature in encouraging composition and originality.

The Council, after reviewing the works done by the students during the past year, confirm the opinion referred to in the above report.

After a careful examination of the studies the Council awarded the prizes as follows :—*The Carnegie Scholarship*, Adam A. Tyler; *The Chalmers Bursary*, Peter Munnoch; *The Chalmers-Jervise Prize* for best drawing from the life, William Lister; *Maclaine Watters Medal*, Adam A. Tyler; *The Stuart Prize*, James B. Martin and A. B. Gillespie (equal); *The Keith Prize*, not awarded. The Council commend Mr. D. Alison, Mr. Hugh A. Cameron, Mr. W. L. Ross and Mr. J. J. Waterston for their work in the Life School.

The Council regret they have to record the death of George Aikman, A.R.S.A., and Robert Brough, A.R.S.A.

In accordance with the resolution of the Assembly of Academicians of June 29, the Council have pleasure in reporting that a representative collection of works by the late George F. Watts, R.A., O.M., has been arranged in the galleries of the Academy on exhibition, and the Council expresses its satisfaction that this collection is being appreciated alike by art lovers and the public generally.

At the annual meeting of the Royal Scottish Academy of Painting, Sculpture and Architecture, held in the Library of the Academy on Wednesday, November 8, the office bearers were elected and the Council declared for the ensuing year, as follows :—Council, Sir James Guthrie (president), Robert Gibb, William Hole, Robert M'Gregor, E. A. Walton, W. Birnie Rhind, John Kinross; George Hay, secretary; John Hutchison, treasurer; Hippolyte J. Blanc, W. Birnie Rhind, auditors; W. D. M'Kay, librarian; Robert Gibb, William Hole, curators of library; J. Campbell Noble, E. A. Walton, W. Grant Stevenson, Henry W. Kerr, visitors of the Life School.

OFFICIALS AS ARCHITECTS.

THE following is an extract from a memorial presented to the Newcastle City Council by the Northern Architectural Association in 1904 :—

At a meeting on February 24, 1904, the Council of this Association resolved that the attention of the Newcastle City Council be drawn to the fact that the property surveyor is being entrusted with important architectural works, some of such a nature as to require special attention and a large amount of time.

According to advertisements which appeared in the public Press, the property surveyor was appointed for the purpose of managing the various properties of the city.

The number and importance of the city properties, we think, fully necessitates a chief and staff employing the whole of their time in the carrying out of the business in connection therewith.

Since an understanding was arrived at (between the representatives of the City Council and this Association) that the Council's officials should not carry out architectural works, this Association has not had much occasion (until recently) to feel that the spirit of this undertaking was not being adhered to.

The members of this Association in making this protest wish to emphasise the undesirability of any public architectural work being carried out by the Corporation officials when there are duly qualified architects practising in the city who are ratepayers, and they respectfully suggest that in future the designing of all important buildings for the city should be entrusted (by competition or selection) to local architects, believing that this would be to the interest of the ratepayers and conducive to the best architectural results.

In respectfully submitting this, the Association does not desire that it should be a personal protest in any way against the property surveyor or his professional abilities, and they would acknowledge the kindness and courtesy extended by him to any of its members who have business relations with him.

AN AUSTRALIAN ARCHITECT'S HOLIDAY.*

It is my intention this evening to bring before the members of our Institute a few of the points of interest that stand out as landmarks when one looks back at the many incidents of a twelve months' holiday travel in the old world. Many impressions fade, even important ones cannot always be recalled, and, on the other hand, trivial incidents bulk largely in the pictures of one's memory. I can remember what great pleasure, quite disproportionate to its importance, I had, after climbing up a long winding staircase at Ely Cathedral to the roof over the narthex, on coming across an old Norman windlass, with its cross pegs and shaped felloes, just as it had been left by the workmen of the eleventh century. The mind suddenly becomes more active, and one has a record indelibly stamped into one's life. I can remember the joy at the first rose which grew in my garden when a child: it made such a deep impression that I can recall the flower and its surroundings as if it were only yesterday.

On an architect's holiday there are many impressions that crowd and confuse the mind, and others which are stored up for future recurring pleasure. An architect appears to travel with a strong desire to absorb everything old, capture something new, rub shoulders with the best work, and seek an inspiration from the very atmosphere that surrounds the sacred proportions of noble buildings. A fellow passenger who was visiting Scotland for a holiday to be devoted to deer-stalking was almost to be pitied when looked upon from an architect's point of view. But such is the diversity of life. It is a good and pleasant thing for an architect when his inclinations and interests are lying along the same path. Only in such a case, I believe, can he be successful in his profession. The buildings are naturally an architect's companions in all lands, their language is Volapuc amidst the babel of foreign tongues, and they are constantly provoking a critical state of his mind. It would perhaps be better if perfect rest were desirable to pass into some secluded spot in the country and do nothing, and do it well.

At intervals in the endless sight-seeing of Paris, with its exhibition, its buildings and its picture galleries, we found it a relief to sojourn up the river and rusticate on the sloping, shady banks for an odd day, try the rod and line, or make an equal failure in an elaborate attempt to extract information from a casual acquaintance we had made. I was armed with a pocket kodak and a few rolls of films all through my journey, and obtained views with the least amount of trouble. I produce this evening a camera similar to the one employed, and which I think is the best for the purpose. Its weight is 16 oz., and can easily be carried in a side pocket, and is always ready. With this I obtained about 900 views, some of which I have put upon slides for the lantern.

I also produce a book of negatives, quarter-plate size, a book of photograph prints and two enlargements of small negatives. I do not put the photographs forward as works of artistic value, but simply as records which serve to remind one of places seen. A photograph is quite equal to the task of recalling the effect of the scene, although it only speaks through the greys of light and shade. On a voyage a little practice makes perfect, and many a time one may be called upon to take a group, a sunset or a broken sea, improvise a dark room and develop something as a pastime, when after the first week at sea time hangs somewhat heavily on one's hands.

Colombo, with its constant temperature of about 90 degs. in the shade, its bustle of strange people in their daily work, its tropical scenery and its goodly hotels opens one's eyes suddenly and fully to the fact that there are wonderful contrasts between the nations of the British Empire, and one's first experience gives genuine delight like unto that of children. We were easily and quickly taken in, not by the luring baits of cheap precious stones or rich fabrics, but by a friend of our guide's, who pointed out the cemetery, and informed us that people living within three miles of that cemetery were not allowed to be buried there. One of our party asked why. "Because they are not dead yet." Then, as Mark Twain would put it, "The funeral of our guide's friend was ordered for the next day." The people exhibit a great amount of artistic feeling. It strikes one as strange that even the country road dray is a work of art when compared with our crude blue and red-sided box, and the sleek ox that draws the cart is ornamented with curved lines in a manner that gives a very pleasing effect to the whole turn-out.

The oft-told tale of London and its life has so impressed one that when we are landed suddenly in its bustle we feel quite at home. Its streets seem to a great extent familiar to us, but it requires many days before we can grasp the enormous size of the city. It necessarily lacks general design and grouping of great buildings. It is spread over a large area, roughly speaking, one portion being more or less a repetition of another. The average run of the streets strikes one as being monotonous and commonplace, and one really must search for the interesting buildings. If ever a proper guide-book was required it is in London. It should be written by an architect, who would understand what was wanted, and for the visiting architects and others interested in architecture.

The middle and early part of the last century are answerable for the miles upon miles of the most commonplace architecture. If our Collins Street was transferred to any part of London it would make a noticeable feature, and the architecture would be above the average in its most important thoroughfares, the general design being better. Someone said some years ago that London only wanted three things to make it perfect—(1) new streets, (2) new buildings and (3) a new firmament. Nos. 1 and 2 are certainly being realised, as fine streets have been cut through densely populated parts and narrow streets widened at enormous cost, and strangely, the firmament has been repolished to a great extent by the abatement of the smoke evil.

Ely Cathedral was the first great Gothic structure I saw after leaving London, and I spent two days of the greatest pleasure looking over it. I climbed its towers and out on its roofs, and round to the great lantern at the intersection of the transepts. The timber roof of the nave, which has a doubtful piece of colour decoration, has a somewhat temporary look. Although the west front is poor in workmanship and design, the nave, chancel and lady chapel and all the details are charming. The effect of great loftiness is increased by the great lantern, and has a noble effect. When the old Norman tower fell the aisles to both nave and transepts were removed, and the lantern floods with light the full width of the building, with its great open space in the centre. In all the other cathedrals visited I was never more impressed than by this bold arrangement. It has been adopted in modified form in many designs of modern churches where required to bring the congregation in a compact body close to the preacher.

One striking peculiarity of the English cathedrals is their great length in proportion to their width, which adds to the effect by giving a mysterious, endless look, with an artistic light and deep shades playing through its form. I also visited Peterborough, Lincoln and York. Lincoln is a great cathedral, and the view as one enters the great gateway when the towers are seen standing solid against the sky above the west front is never to be forgotten. Unrestrained delight seized us, and we entered and wandered through the beautiful building.

Within a stone's throw of the cathedral we visited the old fortress, keep and prisons, which have been the scene of many a fight, and one's mind becomes very active, especially when told by the guard that the last two hanged on that scaffold (which is raised on a round tower) were hanged for stealing a sheep. If the law was comprehensive in those days, perhaps some of the architects, or at any rate builders who worked without architects, would be hanged for the crimes they had committed.

Edinburgh is one of the most picturesque cities in the British Isles, and it has a very solid and substantial appearance. Prince's Street, the main thoroughfare, is certainly equal to all one has heard of it, with its Gothic monument—designed by a carpenter every Scotchman tells you, and you don't believe it. With the buildings on one side and the gardens on the other there is a free and open effect in e very centre of the city. This plan might well be applied our proposed Federal capital. Holyrood and Roslyn hapel were interesting, more from the historical point of ew. I visited the great Forth bridge and stood under the rst span, and felt the importance of this engineering work.

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* From a paper read by Francis J. Smart, V.P., before the Royal Victorian Institute of Architects.

In Paris I found a new art in its swaddling clothes—a movement that apparently came from Germany, but had ft its hall-mark in the gay city. Jewellery and silverware, bric and pottery were affecting a curved and wavy form nd rejecting the straight line. In the exhibition of 1900 much of the furniture was designed in this manner, for nstance, book-cases without a straight line, except the helves on which the books stood, no doubt a very painful ompromise to utility by the designers. I visited the ewly built Castle Berlanger, designed by Hector Guimard, n the new style, and have several views taken from the rchitect's work on this building.

This art is an effort by an individual or a clique to evelop a new style, and such attempts have always proved more or less a failure. The development of a style must e gradual and on definite lines, the process of refinement oing on from time to time by the elimination of the bad and ollecting and using the good. The keynote of this new ecoration is a very subtle curve, and perhaps the only hing new is in the application of this curve wherever racticable. The form has infinite variety, and is ever hanging and mysterious, and is never part of a circle. The reeks made use of it in their mouldings to a limited xtent. In the Castle Berlanger it is found everywhere—n the floors, the walls and the ironwork—and it becomes resome; you have been asked to make a solid meal off oney when a taste of the article would be perhaps quite nough. How pleasing the scroll design when used in ewellery and small articles, and how cruel when applied with a free hand to an interior of a house. In Melbourne has found its way to many a building, and in almost very shop some article bears the stamp of the curve. roperly speaking, it is a fashion, and will die out as uickly as it has risen.

ARCHITECTURAL REFINEMENTS.

THE last of the series of lectures was given in Edinburgh by Mr. William Henry Goodyear, of the Brooklyn nstitute of Science and Arts. At the outset he showed iews of photographs which were taken last week at Lanerost and Hexham. The latter, he said, were especially nteresting as being a valuable illustration of the outward ivergence of the verticals in the choir and transepts, an nstance which appeared to be very satisfactory from the oint of view of constructive purpose. The lecturer then ealt with the subject of Notre-Dame, showing the curves n plan in the nave, which were parallel and opposed to the hrust on the north side, and which rose to the parapets of he exterior walls as high as the roof. These curves of the ave appeared to be related to the deflection of the choir of Notre-Dame, which was already known to exist, but they lso appeared to force a new explanation of the deflection f the choir. It was impossible to conceive that incometence of the builders would explain these curves n plan, because the majority of French cathedrals howed absolutely true lines in the nave. He argued hat these variations of alignment were intended to give icturesque effects and to annihilate the monotony of the traight line. The latter illustrations covered the bends in levation of the nave, and the remarkable deflections from he true perpendicular in the façade, the lecturer remarking hat the theory of subsidence was untenable.

Mr. H. C. Tarbolton, the president of the Edinburgh Architectural Association, in conveying a vote of thanks to Mr. Goodyear, said they had found the lectures very intersting, highly instructive and specially suggestive. Mr. Goodyear had thrown a new light on Mediæval architecture, nd had given them a glimpse behind the scenes. He was onvinced that Mr. Goodyear had proved his points in most ases up to the hilt, and there were many who shared that iew. The Edinburgh Architectural Association was inebted to him for the new interest he had kindled for them nd for the practical suggestions he had thrown out to them.

Mr. Goodyear, in reply, remarked that the debt was mutual.

The Deptford Borough Council have invited the following architects to submit designs for a coroner's court and mortuary, at a cost not exceeding 4,000*l.*:—Mr. Horace T. Bonner, Mr. Albert L. Guy and Mr. Alfred Roberts.

TESSERÆ.

Old Fire Resisters.

THE ancients occasionally applied alum to secure wooden buildings against fire. This idea in modern times has given occasion to many expensive experiments. Aulus Gellius relates, from the works of an historian now lost, that Archelaus, one of the generals of Mithridates, washed over a wooden tower with a solution of alum, and by these means rendered it so much proof against fire that all Sylla's attempts to set it in flames proved abortive. Many have conjectured that the substance used for this purpose was neither vitriol nor our alum, but rather asbestos, which is often confounded with atlas-vitriol; and against this mistake cautions are to be found in Theophrastus. But it may be asked, With what was the asbestos laid on? By what means were the threads, which are not soluble in water, made fast to the wood? How could a tower be covered with it? It is possible to believe that a strongly saturated solution of vitriol might have in some measure served to prevent the effects of the fire, at least as long as a thin coat of potters' earth or flour-paste, which in the present age have been thought deserving of experiments attended with considerable expense. It does not, however, appear that the invention of Archelaus, which is still retained in some old books, has been often put in practice; for later writers on the art of war recommended vinegar to be washed over wood in order to prevent its being destroyed by fire.

The Perspective of "The Transfiguration."

An instance of want of knowledge of perspective in the works of one of the greatest of painters, viz. Raphael, is a very capital mistake in the historical picture, *The Transfiguration.* Christ is represented, with those who were then with Him, almost as large as the rest of His disciples at the foot of the Mount, with the father and mother of the boy whom they brought to be cured; and the mother, though on her bended knees, is more than half as tall as the Mount is high. So that the Mount appears only the size of a little hayrick, with a few people on its top and a greater number at its bottom on the ground; in which case a spectator at a little distance could as well distinguish the features of those on the top as those on the ground. But upon any large eminence deserving the name of a mount that would be quite impossible. In explanation it may be said that Raphael's problem is the harmonious combination of incidents which are strongly contrasted but correlative in virtue of their very contrast. In the group on the lower ground level the demoniac boy is convulsed in the midst of his excited and afflicted kindred, who are appealing for comfort and aid to the Apostles—the Apostles, who on their part already recognise their inability and are reduced to refer to the power of the absent Master. On the summit of the Mount Christ appears glorified and announced by the divine voice as all-sufficing, supreme at once over the representations of both prophecy and the law. Humanity, in fact, is typified below—afflicted, despairing, perplexed and hopeless, but for rescue by superior power and interference; and in the scene above the justification of such a hope is manifested when Christ, as the embodiment of all that the ages has slowly or amidst conflict been evolving, receives supernatural sanction to close once for all the conflict of pretensions between free prophesying and formal legality—between Moses and Elias. The two incidents were therefore to be represented not more positively distinct in scene than interlocked by sympathy. The separation physically is sufficiently indicated by the adoption of distinct perspective horizons for the two scenes: below we are on the same ground level with the Apostles and their supplicants; above we have the summit and surface of the Mount under our view. Raphael is as skilful in reconciling us to accepting typical intervals of space as Shakespeare in shortening up a lapse of time.

Correspondence

The Education of the Architect and the Public Schools.

SIR,—Mr. Belcher, in his excellent presidential address, refers at some length to the education of the youthful architect, announcing the support the Royal Institute of British Architects has given to the scheme the new Board of Architectural Education has established. But does the

Institute or the Architectural Association go quite to the root of the important matter of the early education of the architectural student without taking into account the public schools?

Efforts have been made with success in one or two of our public schools to give some attention to architectural training, but in most of the schools nothing whatever is being done. If the new Board of Education can awaken a desire in these schools for architectural knowledge the public apathy in things architectural which Mr. Belcher deplores would soon be removed. Surely, also, parents have a right to expect that the same advantages of equipment and teaching that are at present given to boys training for the Army, medical and engineering professions should be extended to those boys wishful to become architects. The architectural Board of Education might reasonably press this matter, and a representative of the public schools on the Board would be useful and should be considered. In addition, the introduction of more architectural knowledge in the preliminary examination of the Institute of British Architects would urge schools to take serious notice of a neglected subject.

A course of elementary study in architecture can be easily arranged without any serious entrenchment on the usual school curriculum. A reasonable amount of architectural drawing, combined with a course of history on the evolution of architecture, carrying a boy through his preliminary examination and enabling him to prepare while at school some of his drawings for the intermediate examination should be expected. At present most boys leave school and the university without ever having the smallest architectural training, even as a branch of æsthetics or as the necessary equipment of an educated person, and this deficiency is the more keenly felt by the youth who selects architecture as his profession.—Yours faithfully,

MARTIN A. BUCKMASTER.

Adamson *v.* Priestley.

SIR,—My client, Mr. H. E. Priestley, the defendant in the above action, is under the necessity of writing to many newspapers with reference to the report of this case. He complains that the report is unfair and inaccurate, and calculated to do him serious injury as reflecting upon his character and practice as an architect. He is under the impression that the various newspapers having a report of the case have copied from one another, and with a view to prevent the same report in any more papers, if possible, especially those connected with his profession, I am directed to write to each one of the latter and request that the report may not be copied, but that if any report appears it shall be a full and accurate report. I am, therefore, writing to ask you to be good enough not to copy the report as it appears in the papers. The only reporter present in court during the hearing was, I believe, the reporter for the *Yorkshire Daily Observer*, and it is probable, therefore, that each of the newspapers have copied from the report in that newspaper. I am in communication with the editors and am requesting them to put in a full and accurate report, otherwise my client will be under the necessity of taking legal proceedings for damages for libel.—Yours truly,

H. C. M. M. CHARTER.

Craven Bank Chambers, Bradford:
November 13, 1905.

GENERAL.

The Society of Twenty-five English Painters have elected the following artists to membership:—Mr. Sydney Lee, Miss Constance Halford and Mr. J. R. K. Duff, thus completing the full number of twenty-five.

Mr. Frederick A. Powell, architect, has been elected mayor of Lambeth. Mr. Powell was made an alderman of the Borough Council three years ago.

The Sales effected at the International Art Exhibition in Venice amounted to 20,000*l.*, the sales of English exhibits coming second in the list of the eleven countries represented.

Mr. Brangwyn's panels illustrative of British labour, which were painted for the English hall at the Vienna Exhibition, have been purchased by Mr. S. Wilson for presentation to the Leeds Art Gallery.

The Promises towards the repairing of the east end of Winchester Cathedral already amount to 2,900*l.* The total cost is roughly estimated at 20,000*l.*

M. Marquests has completed the model of the memorial of the late Waldeck-Rousseau, which is to be placed in the garden of the Tuileries. It consists of a bust of the Minister with symbolic figures.

The Revised By-laws for Glasgow theatres have been mutually arranged between the sub-committee in charge of the matter and the various theatrical licensees. The chief point of difference between the revised by-laws and those hitherto in force is that the revised by-laws provide for the scenery, draperies, &c., being rendered fireproof.

The Dean and Chapter of Exeter Cathedral have accepted the offer of an anonymous donor to erect in the cathedral a statue to Hooker, at a cost of 1,000 guineas. The divine was born at Heavitree in the neighbourhood of Exeter. His grandfather was mayor of the city in 1529.

The Crown Agents for the Colonies have appointed their chief inspecting engineer, Mr. Ashton M. Heath, as one of their representatives to succeed the late Sir William Shelford, K.C.M.G., on several of the sectional committees of the Engineering Standards Committee.

The Archbishop of Canterbury laid the foundation-stone of the new church of St. Simon, Plymouth, on the 8th inst. The church will stand on a commanding site with a view of the Sound. A somewhat steep slope to the south has been taken advantage of for vestries, stoke-hole, organ-blowing meter, &c., below the general floor level, thus raising the floor level and adding much to the dignity of the structure, which in plan is based upon the Devonshire type of triple aisles. The nave will be 89 feet long and the chancel 42 feet, the internal width being 58 feet. A chapel terminates the north aisle, while the organ is placed in the south. Accommodation is for 750. Local limestone will be used with freestone dressings. A turret over the north porch will have provision for two bells, the tower being left for a future extension. The design is of a Perpendicular character, Mr. Harbottle Reed, of Exeter, being the architect.

Messrs. Spottiswoode & Co., Ltd., announce that they will publish early in December Walford's "County Families of the United Kingdom," for 1906, and almost at the same date "A List of 1,750 English Clubs," edited by Mr. E. C. Austen Leigh.

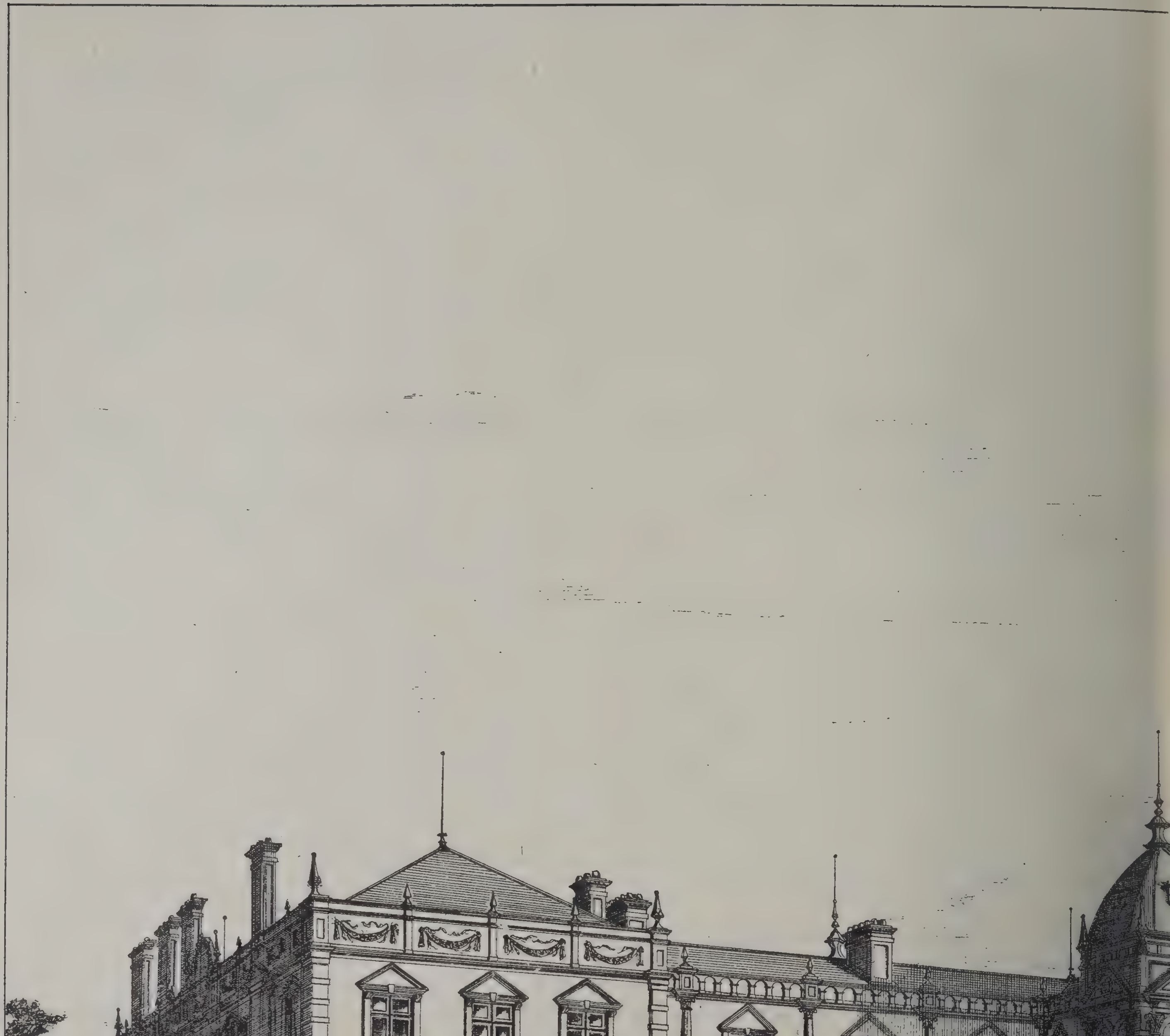
Signor Turillo Sindoni, the Roman sculptor, has despatched to London the cast of the statue of King Edward VII. which is to be erected in Calcutta.

The Edinburgh Sanitary Society has just been formed with Mr. William Thorburn, C.E., lecturer, Heriot-Watt College, as president. The Society is to be for the benefit of students of sanitation and all others interested in it. A museum of sanitary appliances, both old and modern, is to be established, and also a library of technical literature; and arrangements are to be made for advising students regarding sanitary questions and courses of work. It is also intended to make a collection of data bearing upon sanitary matters, and a committee will be set apart for the collection of statistics bearing upon Edinburgh. Though only formed three months ago, the Society now numbers over eighty members.

The Bishop of Washington, U.S., having desired some of the stonework displaced during the restoration of the Bell Henry tower of Canterbury Cathedral, it has been sent to America for incorporation in the structure of the new cathedral at Washington. A suggestion has been made that some of the stone needed for the restoration of Canterbury Cathedral might be sent from America.

The Navy League having received a report as to the condition of the Nelson Monument in Trafalgar Square, the matter was taken up by the Board of Trade. A thorough inspection was made, which showed that the statue was exhibiting signs of the action of the atmosphere, and it was discovered that there was a fracture of the arm of the statue. Instructions have accordingly been given for a thorough renovation of the column and the statue. The fracture will be mended and the column is also to be repointed.

The Following Awards in students' competitions were announced at a meeting of the Manchester Society of Architects last week:—Mr. Beaumont's prize for drawings for the sketch-book, J. Cocker; special prize, F. Dyer. Society's prizes for sketches—1, J. T. Halliday; 2, J. Cocker. Society's prizes for measured drawings—1, J. H. Goldsmith; 2, F. Hearne; special third prize, J. T. W. Brooke. Prizes for best work done in the School of Art architecture classes (including examination results)—Second and third year students—S. Birkett and G. H. Goldsmith (equal). First year students—1, J. H. Roberts; 2, D. Sherlock.



DESIGN FOR PROPOSED HYDROPATHIC

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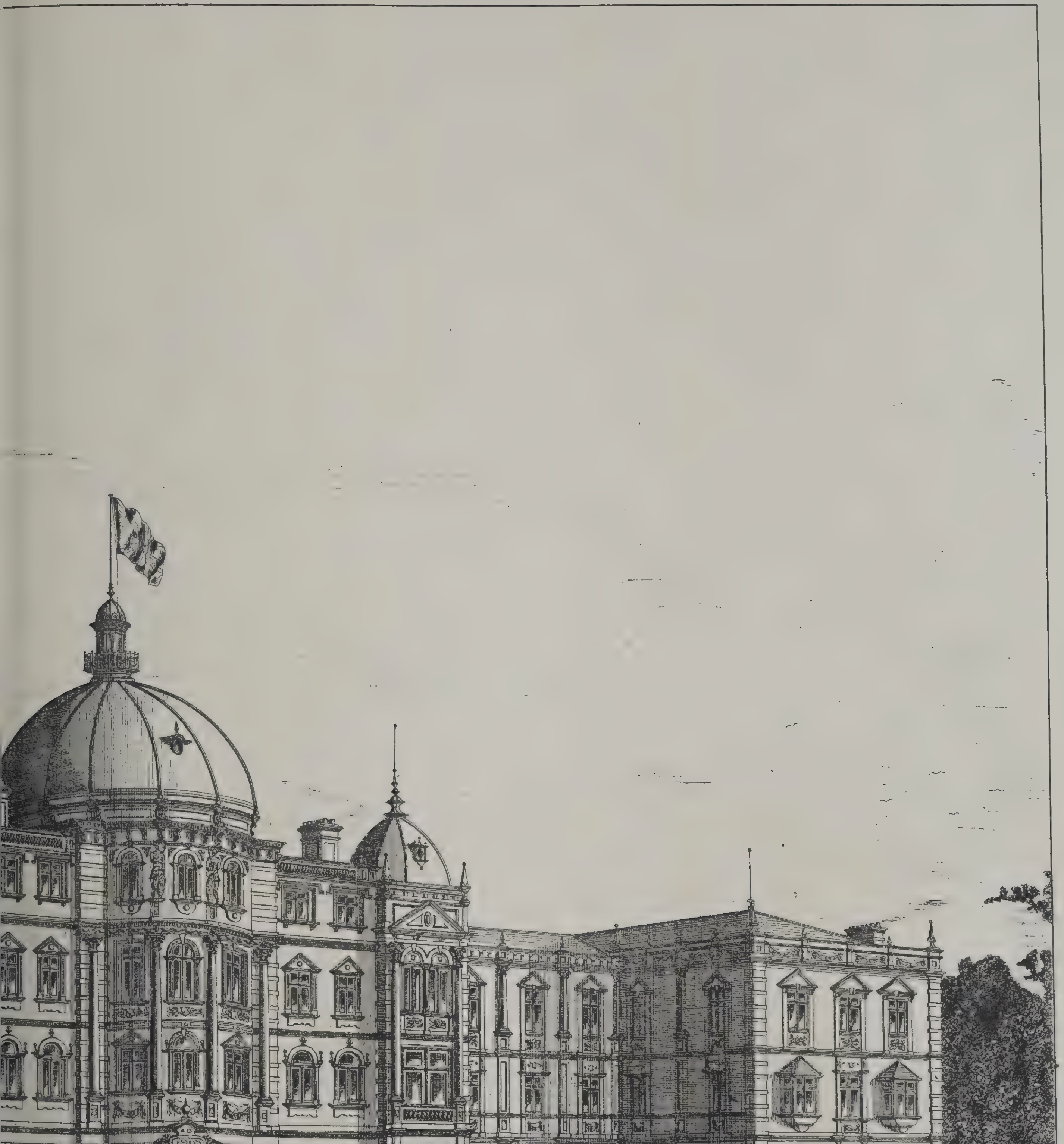

PHOTO LITHO SPRAGUE & Co LTD 4 & 5 EAST HARDING STREET, FETTER LANE, E.C.

SHMENT AT HAYWARD'S HEATH, SUSSEX.

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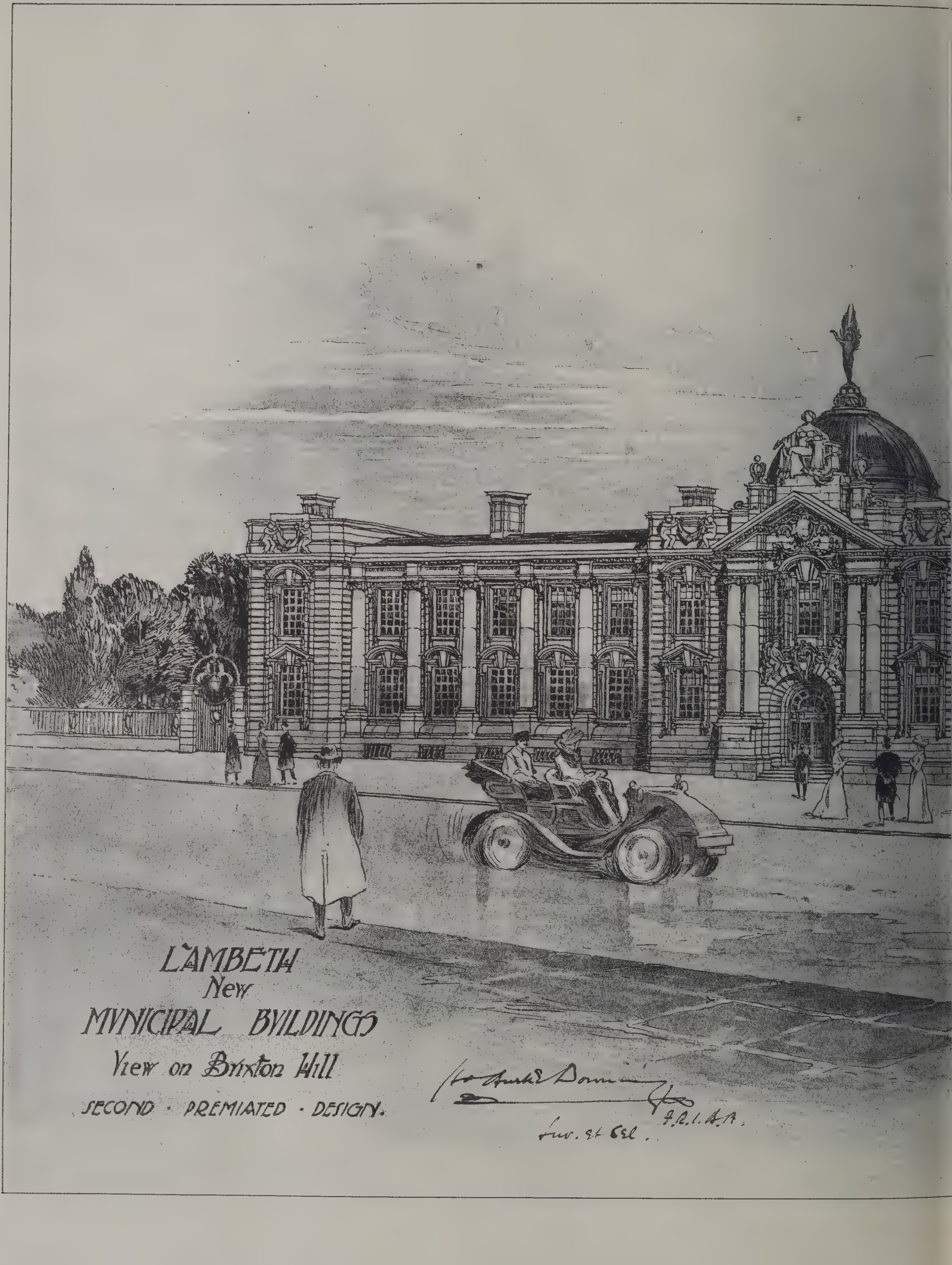
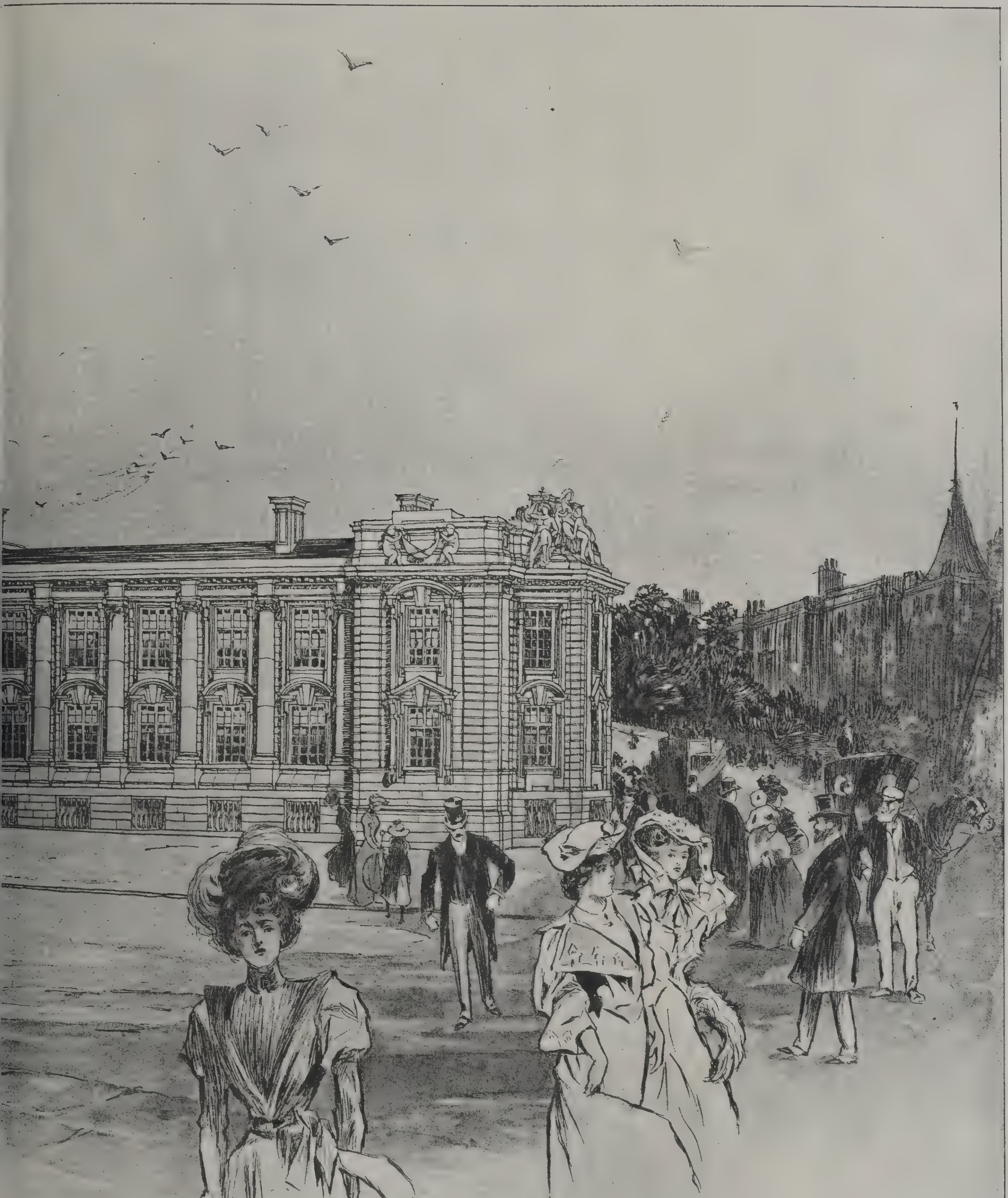


LAMBETH
New
MUNICIPAL BUILDINGS
View on Brixton Hill
SECOND · PREMIATED · DESIGN.

Burke Downing F.R.I.B.A.
Inv. et Del.

v:17th 1905.



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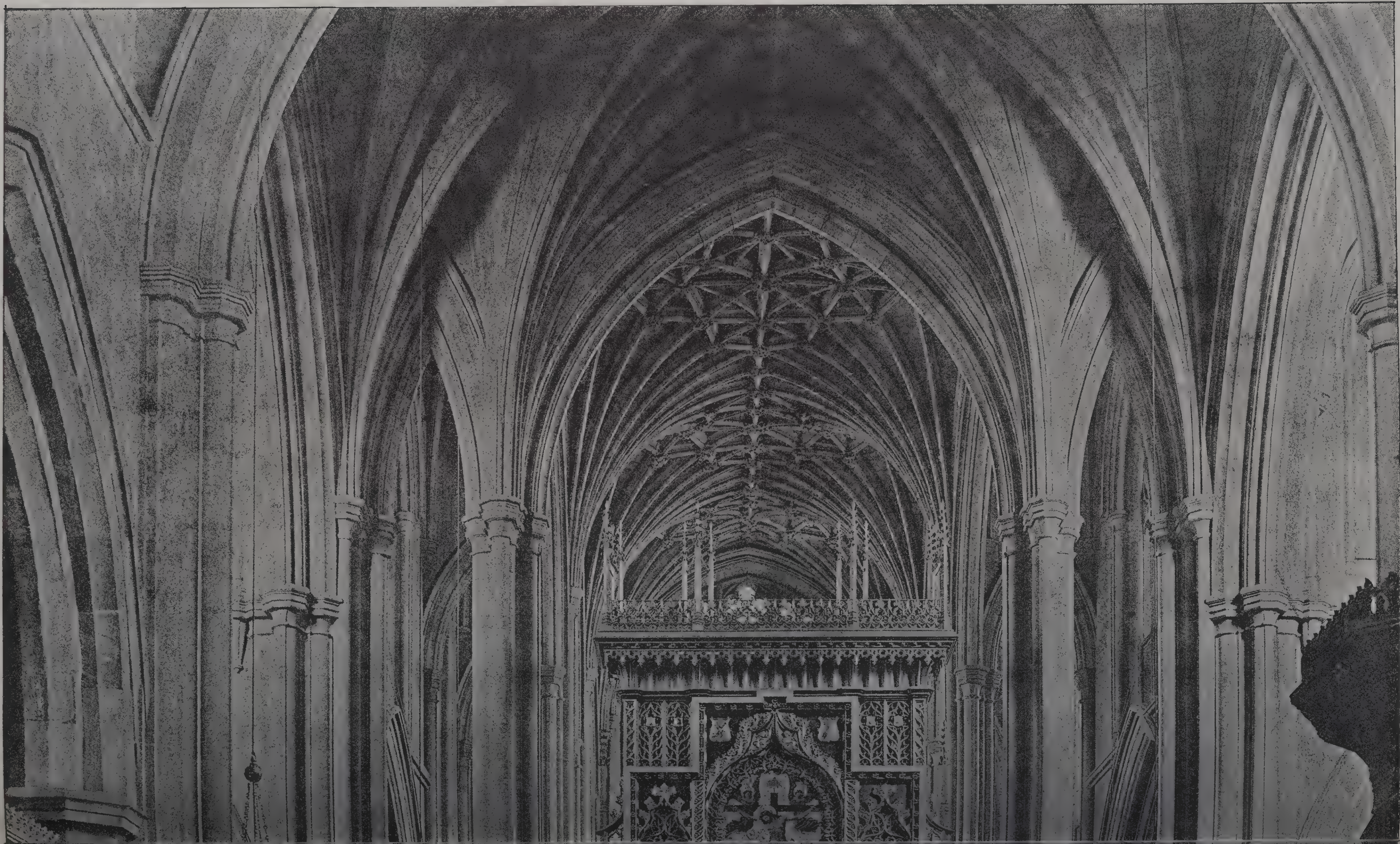
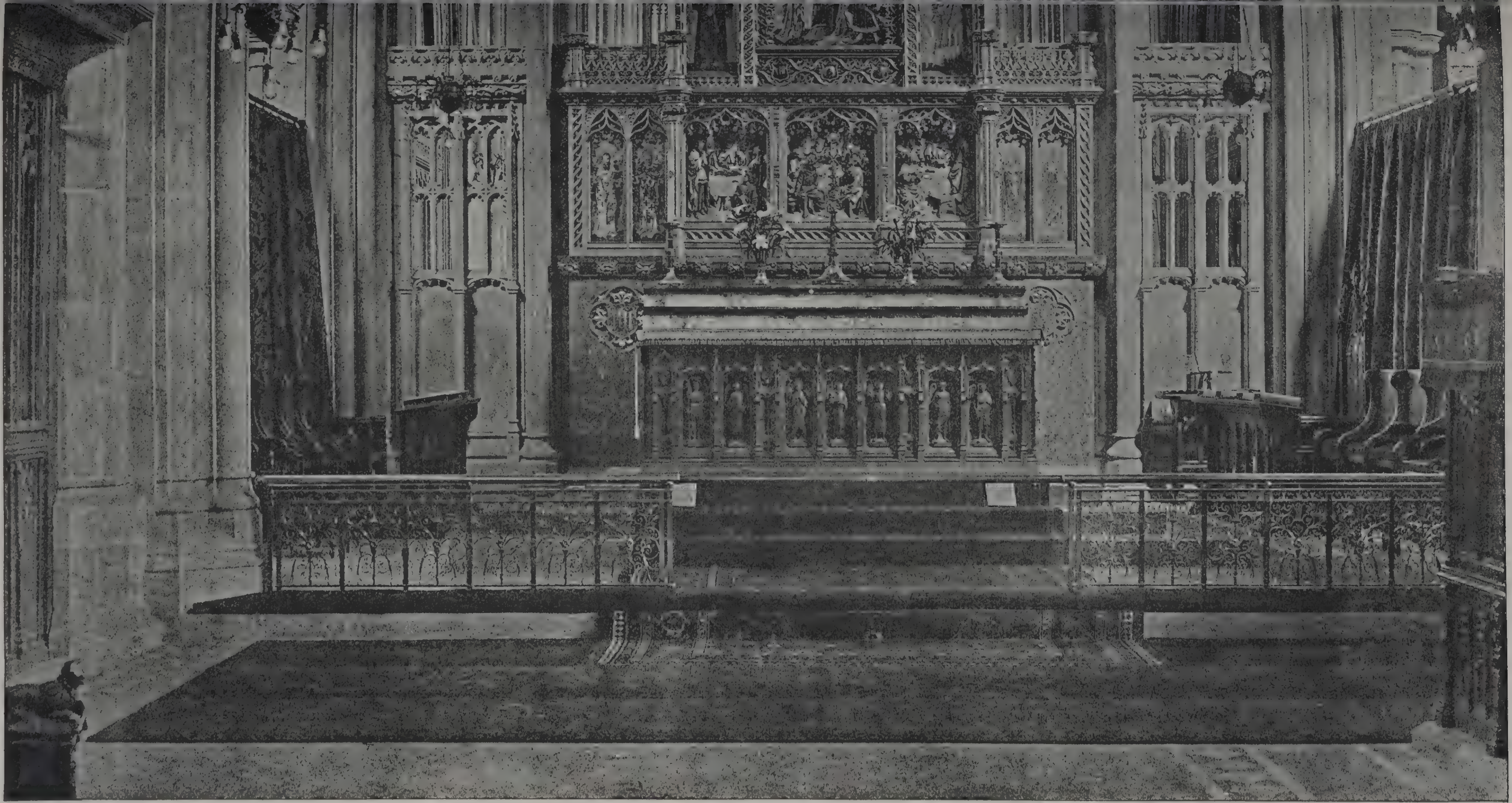
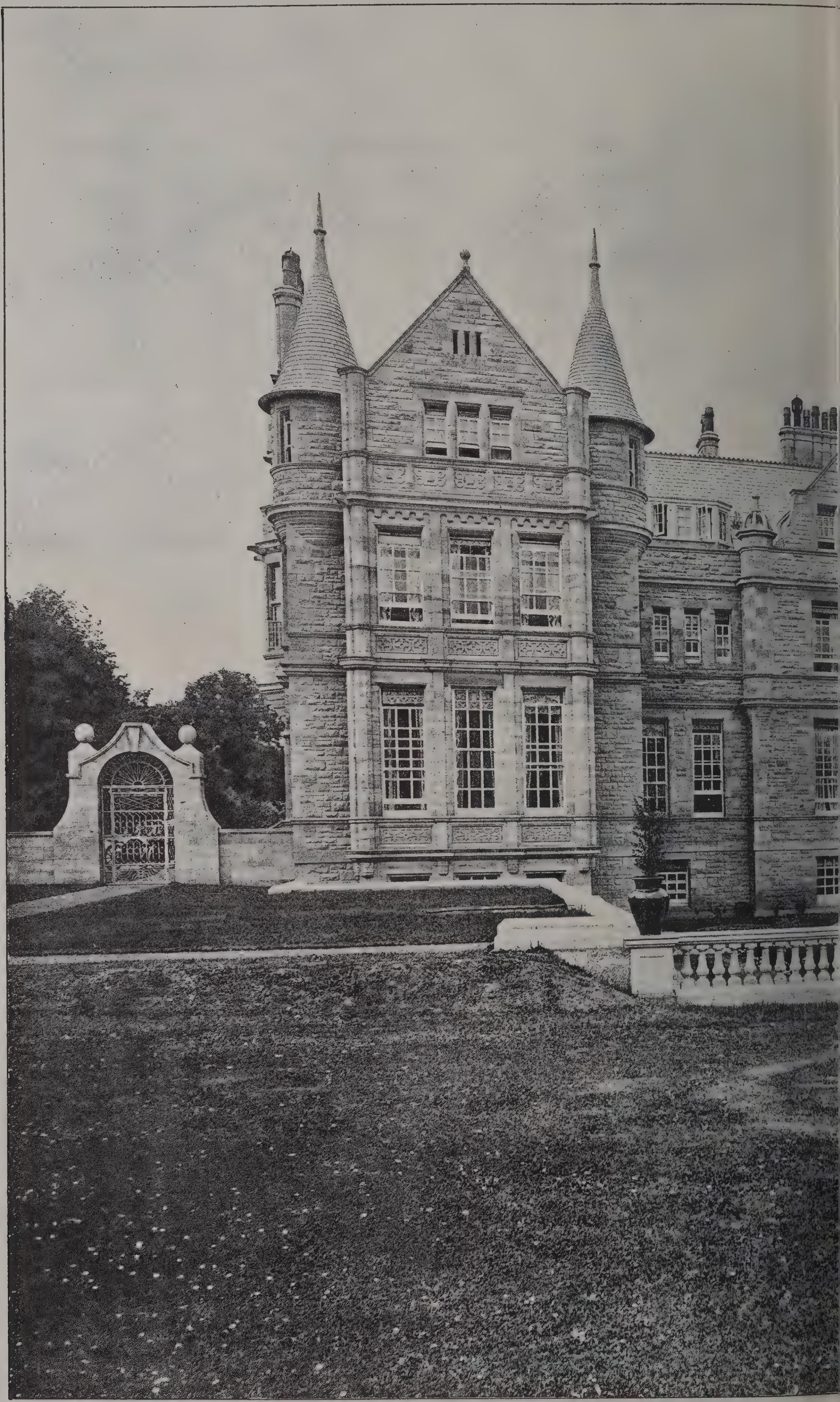
The Architect, Nov: 17th 1905





"INK-PHOTO", SPRAGUE & Cº LTD 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

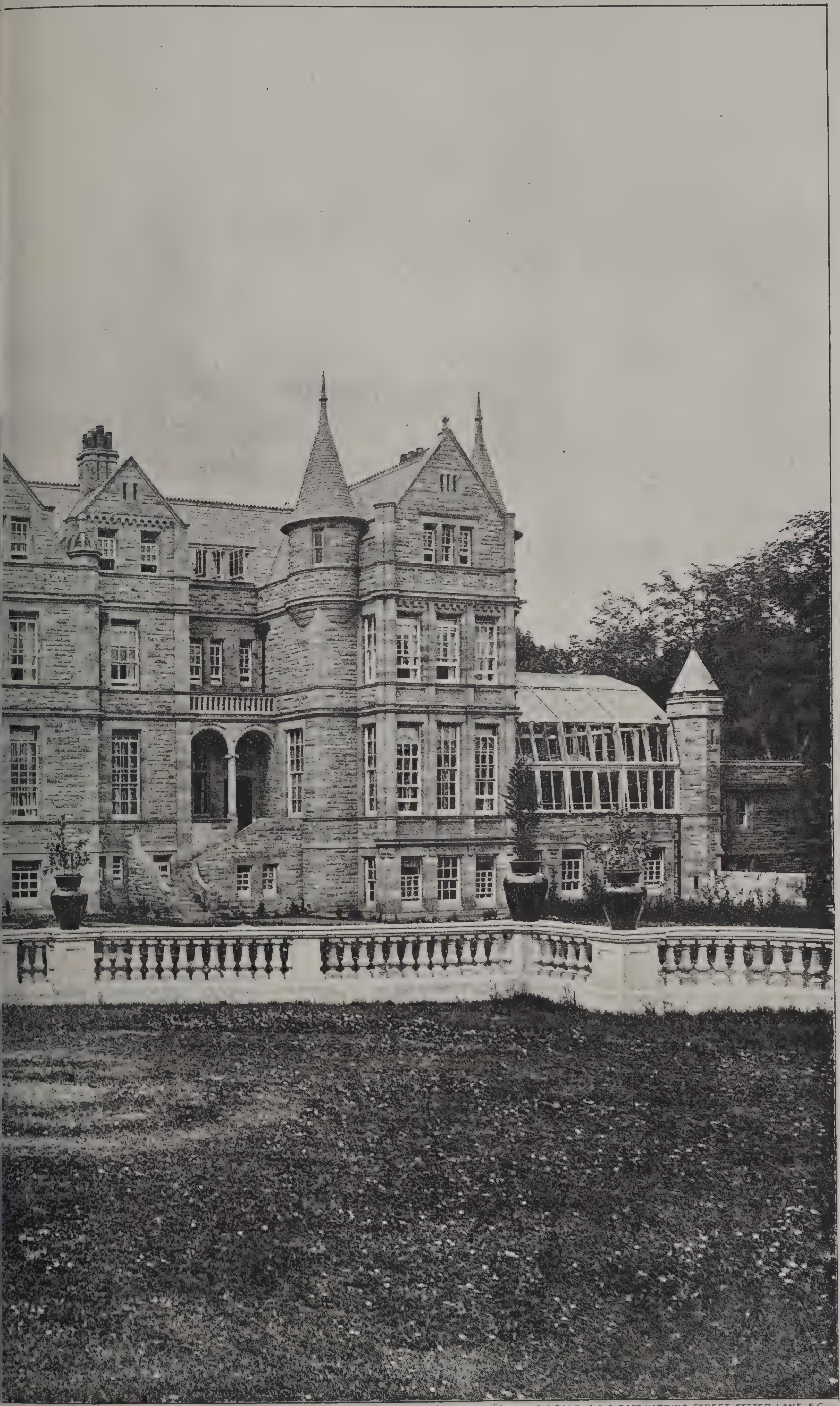
CATHEDRAL SERIES, No. 541.—WAKEFIELD: ALTAR AND REREDOS.



PHOTOGRAPHED BY BEDFORD LEMERE & Co 147, STRAND, W.C.

MOUNT MELVILLE, ST. ANDRE

PAUL WA



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B.: View from South-West.

, Architect.

The Architect.

THE WEEK.

All who take an interest in archæology will be glad that the Prince and Princess of Wales visited on Tuesday the Maharajah of Jaipur. Indian potentates have occasionally proved themselves to be enlightened rulers. But the Maharajah has been alone in endeavouring to uphold, if not to surpass, the vernacular art of India. With the aid of Colonel Jacob the principal ancient buildings have been measured and drawn by natives. Schools of art have been opened and craftsmanship in various forms promoted. The Prince recognised the circumstances when he said that the design on the casket which contained the address "will serve as an imperishable record of the beautiful architecture of Ajmer, and I am glad to hear of the restoration of Shah Jehan's pavilion." The whole district is a model of what can be accomplished by a ruler who is able to realise his opportunities for elevating his countrymen; and Jaipur, although not esteemed in India like Ajmer, is one of the most satisfactory cities which can be found in the Indian Empire.

The terrible disaster which occurred in Glasgow on Sunday morning should be taken as sufficient evidence for strengthening the hands of municipal authorities when dealing with dwellings for the poor. The housing problem has long engaged the attention of the Glasgow Corporation, and efforts have been made to provide rooms for very poor people. But in Glasgow, as in all large cities, there is a residuum that could not calculate on even a week's residence in an unfurnished room. It is for such people lodging-houses like that in Watson Street are arranged. Apparently it was not erected to accommodate 400 people, although that number might be received. In such a building a single staircase was inadequate, especially when the lodging-house was four storeys in height and the upper floor was arranged in cubicles in order to accommodate several sleepers. The divisions between the beds were formed of wood and were varnished. In one sense that promoted sanitation. But when a fire broke out the cubicles became dangerous. In such places there should be clear instructions about any means of exit which are available. Findlay, a slater, whose name deserves to be recorded, fortunately was among the lodgers, and he, realising that there must be an outlet to the roof, found a way to it, and thus was able to save at least twenty people who were in danger. In a house where a lodging was to be obtained for 4½*d.* construction of a high class could not be expected. But the Corporation should possess means of discovering whether in the cheapest lodging-house it is not possible, by a small outlay, to secure means which would prevent such a tragedy as that of last Sunday morning.

The position of surveyors in respect of drainage and waterworks cannot be considered satisfactory. The Public Health Act prohibits an officer of a local authority having any interest in a contract made with the authority under a penalty of 50*l.* The difficulty is sometimes got over by what is an evasion of the law. The District Council of Newcastle-under-Lyme, for instance, recently desired to have a sewage scheme carried out from plans prepared by the surveyor. The sanction of the Local Government Board was sought to pay him 5 per cent. on the outlay. The Board declined, but suggested that the surveyor's salary could be increased for one year by an amount equivalent to the percentage. The surveyor received 269*l.* from the Council. When it was found that he had also received 141*l.* from the contractors for the quantities, there was a discussion. At the meeting on Monday a resolution was adopted that the clerk should be instructed to recover the amount received for quantities. In the case of Whiteley *v.* Barley, which was heard in 1888, it was held that a surveyor to a local authority who took out quantities, although with the approval of the authority, was liable to the penalty. Some reform in the law on the subject is necessary. Quantities are required as well as plans, and the Local Government Board would probably not refuse to increase a surveyor's salary for a year to the extent of 7½ per cent., an outlay which would get over the difficulty.

It would be interesting to know on what evidence the house in Botolph Lane which is about to be sold can be considered as a residence of Sir Christopher Wren. After the Great Fire a house in that position might well serve for his office. Elmes believes that in 1679 Wren completed the parish church of St. George Botolph, on the western side of Botolph Lane, near Billingsgate. There were several other churches within a short distance which he had likewise to superintend. There was also the Monument. But as Wren was an official he was more likely to have a residence nearer to Whitehall. For a time he seems to have lived in Scotland Yard. The house in Botolph Lane is dated 1670, and it is not unlike the mansion of some wealthy city merchant. Dickens might have had it in his mind's eye when he described the house of Mrs. Clennam. For it is "a double house with long, narrow, heavily-framed windows." It is unquestionably an old house, and once upon a time must have been dignified. But how it became associated with Wren is not easily discovered.

"Beware of a man of one book" was an old counsel, for it was a recommendation of thorough knowledge within certain limits, and the likelihood of ability to recognise the relations between the subject of the book and many other things. If in the days when the axiom appeared there were such books as Trantwine's Pocket-Book for Engineers and Kidder's for Architects and Builders, not much surprise would be expressed, for both of them are condensations of constructive science. Mr. Frank A. Kidder died recently at Denver, where he was in practice as a consulting architect. He was in his forty-sixth year. As the first edition of his book appeared nearly twenty years ago he was then, as he said, quite a young man. It was dedicated to his parents, who gave him the education on which it was based; to his wife, for her loving sympathy, encouragement and assistance; and to Mr. Norcross, for giving him an intelligent and practical view of the science of construction. The pocket-book then consisted of 586 pages, and Mr. Kidder thought he had discovered all those practical details relating to the planning and construction of buildings in which the architect was concerned. In the last edition the number of pages was increased to 1,655, which suggests that many additions have been made to the science of building. Mr. Kidder wrote other books, but his portly pocket-book will be enough to preserve his name.

It is announced that arrangements are in progress for the erection of a theatre in New York which will serve the same purpose as the subventionised theatres of the Continent. There will be no sacrifice of the drama to the interests of a manager, whether as actor or as speculator. One desire of the promoters is to have the English language spoken with purity by the performers. If there should be a difference about pronunciation a committee of professors of American universities will have the right to decide on the subject. There will be also committees of experts to arrange about scenery and costumes. The site selected is in Fifth Avenue, which is near the Central Park. It will cost over 200,000*l.*, and the erection of the theatre will probably reach 500,000*l.* Already thirty subscribers of 20,000*l.* have come forward, and others seek the privilege of aiding on similar terms. There will be thirty private boxes, each of which can be purchased for 20,000*l.* The name of the architect who will design the building is not mentioned.

AMERICAN BUILDING.

IT is a common practice to over-emphasise some particular quality when judging nations or individuals. What is called national character is generally no more than a partial enumeration of defects and virtues, all of which are made to tend in one direction as if to support a preconceived theory. That mode of creating a dominant characteristic was usual in Shakespeare's time, for he refers to it on several occasions. For instance, we have Hamlet pointing out the injury which the Danes suffered because they were reputed to be habitual drunkards. Then, as became a philosopher, he remarked on the common rule by which a virtuous man loses reputation from a venial fault. It is in consequence of this custom and practice that when people now speak of American building they have in their minds lofty structures like the skyscrapers which are erected expeditiously, and are sought by tenants almost before they are completed.

Buildings of that class are no doubt always erected because they meet special wants of an important part of the population. But it is a fallacy to suppose that steel-framed buildings have in any way dictated either the forms or methods of construction in all other buildings. It is possible that the hollow terra-cotta blocks which are often used for partitions if not for walls in houses were inspired by the spirit of economy which has exercised so much influence on the tall office buildings. American ingenuity no doubt has been exercised in manufacturing parts of buildings. But it is not to be supposed that throughout the United States there is little demand for clever workmen of the old type who can be independent of machines. American residences often cost much larger sums than either town or country mansions in England, and in them especially handiwork is used of the most perfect kind. There still remain classes of work in which labour-saving machines are of no avail.

One of the reasons for the low opinion of American building which prevails in this country arises from the descriptions of the buildings which are found in books and newspapers. Men who have to write on the subject usually confine themselves to the buildings which are most accessible. They are generally speculative ventures which barely comply with municipal regulations. The bricklayer who wrote for the Mosely Commission said :—"There is no doubt in my mind that up to the present time the demand has been mainly for 'cheap work and nasty,' although I am of opinion that at least some of the work now being executed is better done than the work of a few years ago." Similar work can be discovered in London. But it would be absurd to conclude that all the metropolitan houses are of that class. In building, as in most other kinds of business, it is always difficult to express a judgment which will be generally applicable.

In the large American cities it must be acknowledged that laxity in complying with building standards is promoted by the codes which are issued by authorities. The officers are generally ardent politicians, and demands are made on their time which are unknown in England. They are often to be met in committee-rooms when they ought to be testing foundations. When there are collapses or fires it is usually found that the official inspectors rarely visited the premises. Indeed, it seems to afford pleasure to foremen and workmen to try and make American by-laws only subjects for mockery. Work which is accomplished by machinery is therefore often recommended by architects, because they believe that with it there is less chance of risks.

Contractors cannot, however, play fast and loose with municipal regulations without trying to be as successful with the conditions of their contracts. The extent to which dishonesty is practised is suggested by the instructions given to superintendents or clerks of works by Mr. Richey, one of the officials of public buildings in America :—"The superintendent," he says, "should examine all material as it is brought to the work, and at once reject any that is of poor quality or unfit for the work, and all rejected material he should have removed at once from the premises, for so long as any such material is at the job there is danger of some of it finding its way into the building or structure. Regarding material, the superintendent should be suspicious of any change or substitute advanced by the contractor, for it is of no advantage for a contractor to make a change unless it is to substitute something cheaper, and anything cheaper will be inferior in quality." In a late number of one of the American journals we read how an inspector created a panic among some of the builders in his city because he had issued orders to his assistants to examine carefully the materials which were being used in the erection of houses. We suppose there was fear that the regulations would be enforced. In our last number we referred to an inquiry into the character of some municipal works in Philadelphia, by which a large sum of money was lost to the city. But in that case the plans and specifications were of such a character that one contractor at least became a bankrupt. If specifications are too exacting, contractors are likely to assume that they are prepared as a mere matter of form, and that latitude is allowed in interpreting them.

In spite of the objections which have been raised against the tall office buildings of American cities, it is easy to understand why an American when treating of building should refer particularly to them. That was the case on Monday, when Mr. R. A. Denell read a paper before the Institute on "American Methods of Erecting Buildings." In his descriptions office buildings were prominent. A critic could rarely speak well of the skyscrapers as examples of architecture. Some of them exhibit not more design than is to be seen in those book-cases which can be extended to any size by the repetition of the same receptacle. Others are regarded as of superior merit because they are thought to be suggestive of a column, since a little more prominence has been given to the ground floor and the upper storey. If similar buildings had to be erected in London, Paris or Vienna, it is doubtful whether they would be more satisfactory in appearance than those seen in New York and Chicago. Judged, however, as examples of construction, there is usually an avoidance in them of the defects which are supposed to be characteristic of American structures of other classes. The outlay is so large, it is necessary the utmost care should be exercised in every part. Even in Chicago, where expedition is indispensable, the foundation for one of the buildings is by itself an example of the most skilful construction. They are so elaborate that the word grillage is applied to designate them, for several rows of girders are often laid above a mass of concrete. When a collapse would cause a vast destruction of life and property there could be no scamping of foundations like that which is possible in so many buildings. In the construction of steel framing and beams there is less danger than is commonly imagined. And in America especially the ordinary ironworkers have always a staff of experts to insure that junctions are faultless. With the foundation and the metalwork secure, the brickwork, terra-cotta work or masonry in the outer walls, and the construction of floors and ceilings, become comparatively easy. It is found to be the truest economy to employ firms of the highest class who are prepared to take responsibility for all they do, and in that way the construction of the skyscrapers is as perfect as science can dictate. One proof of the excellence is the absence of any accident which could be ascribed to defective work. The aspect of the buildings is often unsatisfactory, but a great many years will have to pass before signs of decay are visible in them.

The main object of Mr. Denell's paper is, in our opinion, the advocacy of the system which is exemplified in the tall buildings of American cities. In other words, it is a recommendation of letting contracts to firms who will not become panic-stricken when it is announced that a closer scrutiny of work is to take place. Companies for construction in America largely consist of men who are financiers. But they take care to have the co-operation of men who are not only masters in building, but organisers who can insure that any malpractice on the part of the humblest workman will be discovered and remedied.

THE DEVELOPMENT OF ARCHITECTURE.*

THE words "evolution" and "development" are become so familiar, they have almost lost for people in general their scientific signification. They are used to mean change, improvement, succession and much else which relates to the alterations that are continually taking place around us. There is a risk in employing either in most matters connected with the arts. Evolution and development mark many human actions, and as there have been lingual progress, intellectual progress, moral progress, there seems at first sight to be no reason why there should not be æsthetic progress. When he originally planned his "Synthetic Philosophy" Herbert Spencer announced that he intended to explain the evolution of the fine arts, "tracing their gradual differentiation from primitive institutions and from each other, their increasing varieties of development, and their advance in reality of expression and superiority of aim." Although Spencer had given some attention to art in his occasional writings, he did not venture on the exposition he contemplated. We are not surprised at his hesitation. The fine arts to the majority of those who consider them must appear to be a contradiction of the general law or process of evolution.

We see, for example, at the present day that not only Greek, but still older patterns are constantly used in manufactures. The fret which might be said to be as old as the hills continues as a pattern, not only in woollen and in cotton stuffs, but in other materials. The lines are most simply arranged, but nothing has been devised during three or more thousands of years which can be considered to supersede them. The same acceptance of other ancient forms is common. Long's picture of the *Babylonian Marriage Market* caused a revolution in dress, for it not only revived the use of knotted fringes, but of folds that were adapted for their display. Women in that way acted as men had been doing in endeavouring to imitate ancient buildings, sculpture and ornament. The survival of the fittest would appear long ago to have been determined in art, and contrary to the accepted principle of evolution, which presumes that the transforming process is still in operation.

Professor Simpson, in the preface to his new volume, says:—"The history of architecture is the history of evolution; and all work in all countries and at all periods has been evolved from preceding efforts." He does not, however, define what he means by evolution. In the scientific sense of the word evolution is integration, which supposes a dissolution or superseding of something which existed before. That cannot be said of architecture. It is to some extent true of the other great division of construction, viz. engineering. The Roman aqueducts are impressive, but no modern waterworks engineer would adopt the principle on which they were designed. In architecture, however, there is nothing discreditable in following ancient forms. As long as they are beautiful they are models as well as joys for ever, and they are as deserving of imitation as the types of the human form which have been perpetuated by Greek sculptors. All that is possible when describing the history of architecture is to show evolution on a very limited scale and exercised only under peculiar conditions and rarely.

We do not wish to state that Professor Simpson has misinterpreted the system. His title-page and preface may suggest evolutionary or revolutionary theories. But in the pages of his history he is too honest, and is familiar with too many buildings to suggest much correspondence with the phenomena recorded in the ordinary books upon evolution. Architecture is perhaps too young an art to exhibit the rhythm of evolution and dissolution in a way that will be manifest to all.

His history begins with Egyptian architecture. That of the Memphite kingdom belongs to about 4000 B.C., rather a late period if a development theory is to be worked out. There was prehistoric architecture, however simple, and we require something which will suggest to us the "preceding efforts" through which the Egyptians acquired such grandiose notions about art, and obliged them when working on so large a scale and with hard materials to adopt a plant like the lotus for capitals which were to sustain immense weights. The operations of development are more likely to be suggested by the dwellings of the Egyptians, but on that subject Professor Simpson is silent. Apart, however, from his theory, the chapter is an excellent *résumé* of the latest knowledge about the temples and pyramids.

In his second chapter on the architecture of the ancient Eastern monarchies Professor Simpson draws a contrast between Eastern and Egyptian architecture. "No comparisons," he says, "can be instituted between the work of the two countries, except perhaps in matters of decoration. In these the Assyrians followed to a great extent the lead of the Egyptians. And, although their decorative work possesses features not met with in Egypt, much of their ornament is based on that of the other country." The variations of eastern ornament are a subject which cannot be treated without numerous illustrations. But, assuming that Assyria was to some extent indebted to Egypt for ornamental forms, is that sufficient to demonstrate that the architecture was in any way a development of Egyptian? The Assyrians were able to construct the arch, which was enough to lead to a style of architecture which was essentially different to what was to be seen in Egypt. As regards Persia, the Professor says they borrowed their sculpture from Assyria, and from Egypt their columned halls and much of their architectural detail. Now in Assyria, if we may judge by the sculptured figures with which Layard enriched the British Museum, muscularity was admired to an extent which would be incomprehensible to an Egyptian artist. The influence of sculpture was not without its effect on architecture. In the relief from Persepolis showing a king slaying an evil genius we see Assyrian style. But in most other representations of the sculpture we find less vigour, while the columns and remains of the buildings have a lightness of character which is different from what was seen in Assyria. There were certain symbols accepted throughout the East which must have had influence on artists, and their use necessarily gives an appearance of similarity to buildings however far apart. But the connection of Babylonian, Persian and Assyrian work with that of Egypt is not proved by similarity of patterns or by the use of columns which neither in size nor form correspond with those of Egypt.

It does not, however, much matter what were the exact relations between those vanished monarchies. It is long since they had any hold on western civilisation, for, we suppose, more interest has been taken in Persian and other eastern ornament during the past twenty years than in all the time which elapsed since our era began.

It is different with Greece. Professor Simpson, in speaking of the Pelasgi, admits that there is much dispute about where they came from. He adds:—"That they were in some way akin to the Egyptians, or, at least, possessed many of their traits, seems certain. At Crete, that half-way house between Egypt and

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* *A History of Architectural Development.* In three volumes. Vol. I. By Professor F. M. Simpson, architect. (London: Longmans, Green & Co.)

Greece, recent discoveries have brought to light extensive works of this race which are stated to be as early as 1800 B.C., but it is doubtful if any of the extant remains in Greece are before 1500 B.C., and most of them are probably three to four hundred years later." Among other evidence the Professor relies on the jewellery and pottery found in the tombs.

The origin of the Greeks is an obscure question; but it does not appear that at any period their best men cared to acknowledge kinship or indebtedness to the Egyptians. It should also be remembered that Phœnician agency was sufficient to introduce a great many foreign objects like those which are found in tombs. The Greeks were also fond of maritime explorations like the Phœnicians, and they were likely to describe the peculiarities of foreign buildings on their return. But would so intelligent a people be incompetent to employ a stone lintel over an opening without going to Egypt for a model? According to Professor SIMPSON, "unlike the earlier work, Hellenic Greek architecture is entirely of lintel construction, beams of stone or marble being employed, as in Egypt, to span openings." But to suggest in that way that there was a lintel in an Athenian temple because there was one in an earlier Egyptian temple is to reason like FLUELLEN, to whom Macedon and Monmouth were alike because there was a river in both. The old-fashioned belief that the temple with all its beauties was only an improvement on a Greek hut was more reasonable, especially with a people who had the knack of making things better by degrees. Professor SIMPSON, we are glad to see, declines to accept the statement that the Beni Hassan piers were the proto-Doric columns. The Doric column was the representative of conservative Greece, while the Ionic pleased those who had a weakness for things from Asia. The correspondence between the columns and other parts of a building was worked out in a way which could not be derived from any foreign examples. In those arrangements evolution was exemplified in Greece, for there was refinement after refinement, and the full power of HERBERT SPENCER would be well employed in following WATKISS LLOYD and demonstrating why certain ratios were adopted in different cases.

In treating of Roman architecture Professor SIMPSON says:—

> From Greece to Rome is, historically, a natural step; architecturally, it marks a great revolution. At no period in the history of architecture has so enormous a change resulted as was effected by the substitution of the Etruscan arch for the Greek lintel. There are only these two methods of spanning an opening, and the results of the change from one system of construction to the other was naturally far-reaching. The Greek was the last and finest of the trabeated styles of the world; the Roman the first of a long sequence of great arched styles. The importance of Roman work has been overlooked by some who judge of a style principally by its detail, and, taking that as a standard, pronounce the art of the Romans unsatisfactory. But that is not the way to judge architecture. It is not detail that makes a style, but the methods of construction which are employed, and the different ways in which those methods are applied. In construction the Romans excelled. If they had only possessed, in addition to their skill in this respect, the artistic sense of the Greeks, their architecture would have been the grandest the world has ever seen. But they relied too much on others.

It is impossible for us to say to what extent the Etruscans used the arch in buildings. According to VITRUVIUS they had circular temples as well as circular tombs. But the remains which exist are not sufficient to enable an inference to be drawn. FERGUSSON considers that the Pantheon was derived from some primitive Etruscan example. If it could be proved that the mysterious people came from Egypt then it might be said that Roman architecture was a development of Egyptian. Greek rather than Egyptian influence is seen in Etruscan remains. It is not, however, sufficient to say, as Professor SIMPSON does, that "they were a building race with a strong feeling for grand proportions, and in that respect were akin to the Egyptians." A different kind of kinship is necessary when we treat of evolution. By using the Etruscan arch in building the column became with the Romans a mere ornament of the pier. The different varieties or orders were considered to be in their place in marking different storeys, and if they had found it necessary to have more storeys than there were orders, they would no doubt have invented new varieties like the composite. The next advance was to use the columns to support arches, an arrangement which has since been followed, although structurally it is imperfect. It might be supposed from that arrangement that economy in the supporting area was desirable. But the Romans employed concrete made walls of a thickness which would be considered as better adapted for engineering works than for ordinary buildings. Having adopted the arch the Romans extended or developed the principle both to vaulting and to domes. Their buildings by that means acquired a grandeur which rivalled the temples of Egypt. There was little need for the calculation of thrusts, for concrete was commonly used. When bricks were employed, they were arranged in a way which made the problem no less simple. According to Professor SIMPSON, "tile ribs started at the springing, and met at a circle round the apex. The ribs were connected by bonding courses, which were often horizontal. The lower part of the dome of the Pantheon, however, according to M. CHEDANNE, who has made a special study of that building, is built entirely of bricks laid horizontally. It therefore exercises no more thrust than if it had been of concrete. The deep coffered panels which decorate so many of the vaults and domes in Rome were either formed between the ribs, or else were hewn out of the solid concrete. In these huge vaults and domes the expense of wooden centering was a serious item, and this to a great extent accounts for the methods of construction adopted."

The description of Roman domes leads to those which are found in Sassanian palaces, in which there is a suggestion of Rome as well as other districts. A chapter follows on Early Christian architecture and another on basilican churches. Among the most interesting of the latter are those of Egypt. The difference in planning from those in Italy is remarkable, and M. GAYOT considers that it was from the Coptic churches the pointed arch and the stalactitic vault were derived by the Saracens. Byzantine architecture is also treated, and, finally, there is a chapter on circular churches and baptisteries. As in most books on the history of architecture, temples may be said to monopolise nearly all of Professor SIMPSON's first volume.

We do not believe that evolution ever took place on the scale suggested by Professor SIMPSON, nor do we consider that the influence of Egypt was so vast or continued for so long a period as he indicates. It is no doubt difficult to trace all the causes which united in producing the style of any country. Man can be defined not only as an animal that cooks, but also as one that tries to improve his work. Rulers and others also put a premium on novelties. These causes are almost sufficient to lead to the changes which are to be observed in early architecture. It is worth remembering that Lord LEIGHTON, who in his lectures took a very wide view of the history of art, considers it to be necessary to name only three displays of evolution. One was seen in the creation of Mediæval architecture; in sculpture, another example was seen during the production of the Parthenon; and in painting it [illegible] seen in Italy from the days of GIOTTO to those of CORREGGIO. He considers the growth of art to be always organic and continuous. In other words, wherever there is the germ of art it can be fostered until it becomes as local and peculiar as the language of the country. Foreign elements are rarely an advantage for it, although Professor SIMPSON seems to identify evolution with influences which are foreign and not native.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last at Conduit Street, W., Mr. John Belcher, A.R.A., president, in the chair.

Mr. R. A. Denell, managing director of the Waring-White Building Company, Ltd., read a paper, illustrated by lantern views, entitled :—

American Methods of Erecting Buildings.

In his opening remarks the author referred to the increase of rapidity of construction and economy as being the dominant factors in the consideration of the subject. American contractors are generally good business men, and apply business principles to their affairs. They try to make every man in their employ responsible in his own position or sphere, advancing him when he shows capabilities to trust his own judgment and to go ahead alone successfully. The best builders in America, as a general rule, have served a large portion of their apprenticeship in architects' offices, and this has resulted in a better understanding of the architect's ideals and demands. Much has been written about the British working-man, but the author did not agree with the writers. They all attacked the bricklayer. The English bricklayer, in his opinion, did better work than his fellow in any other country. As regards the amount of work done, he had had men lay an equal and in many cases a larger number of bricks per day, under similar conditions, than he had in America. Continental brickwork does not compare with work here. He considered, too, both the English stonemason and the navvy splendid workmen. We get careless of our labour here because of its cheapness ; were it more expensive we should watch over it more and give it better supervision. The best American contractors never allow more than twenty-five men to work without a foreman, the result being that he sees that they work, and, what is more important, that the work is planned out for them in advance and that their materials will be ready as wanted. One of the chief reasons for the rapidity of construction in large buildings in America is the way in which materials are dealt with. Time being an essential factor, it would be impossible for a contractor there to execute joinery, stonework, marble-work, and ornamental plastering so efficiently or so well with his own plant and in his own shops as each man in his own particular trade, who has made it a specialty and has had lifelong experience in it. Such work as steel, terra-cotta, partitions and mechanical plant is manufactured by much larger firms than here, and can therefore be supplied much more quickly. The builder stands, however, between the architect and the specialists, seeing that the material is correct in quality and workmanship, and is being worked carefully to details, and also that it is being advanced so as to be ready at the proper time to fit in with the other work. Coming to the larger aspect of the subject, the author observed that the difference in the methods of construction in American practice is the result of evolution in response to certain conditions, climatic and economic, and public demand. The predominating client is practical and commercial ; his demands are those that result in the greatest financial benefit to himself, such as speed, economy in construction, greatest available space to let, &c. The remuneration of American architects is the same as here ; but for this much more work is required, more detailed drawings having to be furnished, and no assistance from clerks of works or quantity surveyors being afforded. In America the quantity surveyor is unknown. The time given to builders in which to estimate is rarely over a fortnight, and each builder keeps his own staff of estimators. If consulting mechanical, sanitary and structural steel engineers are required, they are generally employed by the architect, and to avoid the expense of this many architects have these engineers on their office staff. This would only be remunerative when a large amount of work was done annually—in the case, for instance, of men who deal with the largest work, amounting to from one to four millions sterling per annum. In some cases an architect's establishment costs would be about 50,000*l.* a year.

In America each city has its own building department, which is the only authority to be consulted. Before starting work plans must be filed and approved, after which, except for variations, &c., one can proceed without further interference if following plans which have been filed. The larger cities have a competent staff to deal with building works, and also an engineering staff to calculate the strength of the various parts from the drawings, so as to see that they conform to the by-laws and are structurally safe, and thus prevent "jerry" building, &c. Again, each city has its land surveyors, who at once, upon notification, fix according to law, and to deed and title, the exact boundaries of your client's property. Thus the architect, immediately upon starting his work, obtains exact dimensions for his plans, so that the builder has these fixed dimensions to work to, and from which to order materials in advance.

With regard to materials, a small brick is used, measuring on the average about 8¼ inches by 4⅜ inches by 2⅜ inches, except glazed bricks, for which the English size is generally used. The bricks are laid in all manner of bonds, such as English, Flemish, no-bond, &c. For this last reason English brickwork is superior structurally to American. Timber is much more extensively used, and is much cheaper than here. This is the reason of so many wooden houses being erected, and also so much "mill construction," or what is called "slow burning construction." The principle of this latter is to use large timbers throughout, *i.e.* heavy joists measuring at least 3 inches by 12 inches, and stanchions or pillars at least 12 inches by 12 inches ; while all flooring is 3 inches thick or more, so that in case of fire they will char a long while before breaking. This system of construction is recognised by insurance companies as second only to the ordinary fire-resisting construction, and when a sprinkler system is installed is considered, in the majority of cases, equally as good. Terra-cotta, the author considered, has reached a higher usefulness in America than here, the reasons being, first, the greater variety of clays, which gives the opportunity of furnishing almost any colour or shade ; and, secondly, it is particularly fitted for an external covering to a steel skeleton frame. America is also in advance in its manufacture, the terra-cotta being straighter, truer, and produced in much larger blocks than here, thus more nearly approaching stone in design.

There is very little concrete stairwork in the States, cast-iron being used in fire-resisting buildings on account of the lightness of construction. In the author's opinion it would be better for American practice, especially as regards fire-resistance, to follow the English by using concrete staircases in all non-fire-resisting buildings, and also as regards the system of concrete lintels in use here but not in America.

For buildings over eight storeys in height the prevailing system of floor construction is either hollow terra-cotta blocks built in arch form, with either flat or segmental soffits, or some form of reinforced concrete. Partitions in these buildings are of hollow terra-cotta blocks, expanded metal, or "Mack." Breeze building blocks are not yet used. In New York all buildings over twelve storeys in height must not only have the floors and partitions of fire-resisting material, but if woodwork be used it must be treated, whatever its kind, by a fire-resisting process. All exterior window frames and sashes must be of metal with fire-resisting glazing. Party-walls are not customary in the larger buildings, and the cantilever foundation has been devised to meet the need of supporting adjoining walls on their respective curtilages without the expense of underpinning and guarding against disturbance that comes from using spreading foundations which enter upon neighbouring land. Cantilever foundations are mostly found in the sky-scrapers of New York.

The author called particular attention to the large amount of cast-iron work used in the States in the framework of buildings up to twelve storeys in height. Cast-iron, he believed, could be used to great advantage here for stanchions, as it is a cheap material immediately available, and it can always be manufactured close to where the work is being done. It can also be delivered and erected quickly.

Passing on to consider the "sky-scraper," a type of building that has more or less revolutionised building practice, the author referred to the tales occasionally heard of forty-storey buildings. Such, he believed, could be safely built ; but he thought that the practical commercial building would not be higher than twenty storeys, and that would soon be the limit. When built on proper lines, the life of these steel-frame buildings is as long as that of other buildings. The steel is entirely buried in concrete, all exterior stanchions being enclosed in brickwork and the interstices grouted full of cement mortar. The interior stanchions are treated in the same way, bricks or fireclay being used for covering. In addition the stanchions themselves are now being filled internally, while being erected, with concrete. As to a comparison in cost between buildings supported on steel stanchions and by ordinary brick walls or piers, the cost of carrying a load on a steel stanchion is about one-third that for carrying the same load on a brick pier, providing the load is about 60 tons. There is also a saving of floor space by steel construction. The area of a steel stanchion to carry 60 tons can easily be made 1.46 square foot finished and enclosed, where the sectional area of a brick pier to carry the same load would be 10 square feet. Another advantage is its adaptability to the construction of architectural features, as projections outside the main building lines can easily be carried on brackets or cantilevers with little cost and without interfering with the main steel frame. The advantages too in the way of planning are great, for walls can be taken out and large areas gained wherever desired. Again, the building's advancement does not entirely depend upon weather or even daylight, as work can be carried forward in the various shops and well in advance. Not only that, but the steel frame can be pushed ahead and the enclosing shell can follow at any floor, working, if necessary, on several storeys at the same time, and starting interior work long before the exterior carcass is completed. As to the æsthetic legitimacy of steelwork, there are logical reasons for its adoption; and if there is reason, then surely steel cannot be inartistic, any more than timber.

In conclusion, the author said that there were a great many things America can learn from England, an older country with much experience. On the other hand, there are things Englishmen can learn from Americans, who have gone ahead with energy, making mistakes, realising them and beginning fresh again, as all youth does and will when it has the proper grit. Architect and builder should work together. The builder must have plans, details and instructions complete and definite at the earliest moment in order to accomplish the desired results. Give him full control and make him alone responsible. If the architect deals with one person for a portion of the work and another for something else he not only relieves the builder of a portion of that responsibility, but he actually hampers the builder's progress, for then the other person looks to the architect and not to the builder.

Mr. B. J. Greenwood, in proposing a vote of thanks to the author of the paper, said that, although they had been greatly interested in all they had heard, and could admire some of the American methods, yet he did not think architects or builders in this country would feel envious. They could admire the results of ingenuity without being particularly anxious to follow the same practice themselves. He was sure the architect over here did not desire to control the enormous staff which seemed necessary in American undertakings, and the English builder would be content to accept the conditions that ruled in the old country. It was surprising that such lofty buildings as those they had seen on the screen could be erected in so short a space of time. London might congratulate itself that the first time a high building was run up in the capital the erection proved to be a monstrosity when completed. It was perhaps a blessing in disguise. He was surprised to hear that the highest floor in the buildings of the United States was let at a higher rent than the lower ones, and the fact might suggest possibilities to the owners of many-storeyed dwellings in England.

Mr John Slater, who seconded the motion, said the lecturer had shown a large number of buildings, and whatever they might think of them architecturally or æsthetically, they were undoubtedly interesting. There was no doubt that the recent work of the American companies in London had been of value to all architects and builders, because they were able to observe the great rapidity with which American buildings were erected. He was not quite sure that such rapidity of construction was good. He presumed that nearly every architect who had been engaged with a building must have felt as his work went on that he wished to make certain little alterations, but so far as he knew the system of construction in American practice precluded all chance of this. Such a condition was not the best for architecture. With regard to the English bricklayer, he would say that if the trade union only permitted a certain number of bricks to be laid down in a day, that training was not the best to get the finest work out of the individual man. Mr. Denell had made a point about each city having its own building department, and that the larger cities had a competent staff for dealing with building works. This, the speaker maintained, was outside the sphere of municipal business. The London County Council was doing the same thing, and he held that they were in consequence taking upon themselves a responsibility that was not theirs at all. If the municipal bodies did this work they relieved the architect of all responsibility, though there was just as much risk of the municipal bodies being wrong as an ordinary designer. He ventured to hope that they would not see in London any constructions like those shown in the lantern views. Apart altogether from criticism, they were obliged to Mr. Denell for having given them particulars of American methods. It was evident that some of the methods would be employed in England, and the more they were understood by the architects of this country the better they would be able to decide how far such methods could be adopted.

Mr. Howard Colls, referring to high buildings in the United States, remarked that if those erections were carried all along the streets of the cities and a general height adopted there would be no sun in the streets, and it was obvious that if sun was excluded the cities would be uninhabitable. To reach such a climax it was evident that the results of construction could not be satisfactory. There seemed to be an idea that a building quickly erected must be defective, but this was a fallacy, though he was inclined to believe that the system of hurry so prevalent in American works could not be conducive to good building.

Mr. W. Woodward spoke of the check architects experienced through the authority that was exercised by municipal bodies. The architect, he said, was hampered in his work, and construction was retarded. In a comparison between English and American methods he could not see why a building that was rapidly constructed should not be as good as one that was carried through slowly. The whole secret of delays in building rested usually in the fact that the builder had not looked ahead. In the American method the builder had the details of construction ready before starting operations, and consequently as the building advanced each part was ready at the proper time to fit in with the other work. As regarded unusually large buildings demanding steel construction, he said the architect was not generally capable of doing the whole of the important steel constructing work himself. The question, therefore, that would arise was whether the designing of such work should fall to the architect or to the engineer.

Mr. A. T. Taylor, of Montreal, said he endorsed almost everything that had been said by the lecturer. After all, the great difference in English and American procedure was the evolution of the skyscraper. In every other respect, except in a few matters of detail, the work was similar. The speed the Americans showed in construction was due to the fact that everything was ready when operations commenced, all the details having been mapped out in the beginning of the building scheme. He would like to say, in regard to the point Mr. Slater had raised, that in his experience of work on the other side it was most essential that the municipal authorities should have some sort of veto in respect of proposed building works. Many of those who prepared plans were not qualified architects, and therefore it was right that a governing body should have authority to control building designs. In alluding to skyscrapers, the speaker was not sanguine of long life for the early examples, because much of the steel construction was faulty when erected and many details were overlooked.

The President concluded the discussion, and Mr. Denell briefly replied.

It was announced that at a meeting to be held on December 4 Mr. H. T. Bonner will propose the following resolution :—"That neither the President nor Council, nor either of them, shall approach the promoters of any competition with the object of their nominating competitors, nor shall the President or Council appoint any professional assessor in any competition unless requested to do so by the promoters of such competition."

THE SHRINE OF ST. COLUMBA.

A MEETING of the Edinburgh branch of the Scottish Ecclesiological Society was held on Saturday in the rooms of the Edinburgh Architectural Association. Owing to the illness of the author of a paper which was announced to be read, Professor Cooper obtained the aid of Dr. John Honeyman, R.S.A., in the emergency, and a paper by him on "The Shrine of St. Columba at Iona" was read instead.

It described in detail the remaining indications that at one period—probably in the beginning of the thirteenth century—the choir of the abbey church had beneath its east end a crypt with side aisles. Dr. Honeyman was able to bring some of these indications vividly before his audience with the aid of photographic slides. He also exhibited plans and sections of the building as he supposed it had been originally arranged, and referred to examples elsewhere erected about the same time, referring more particularly to the crypt at Amalfi, where the relics of St. Andrew, the patron saint of Scotland, were enshrined in 1208. He thought that enough remained at Iona to show that the general arrangement of the plan at Amalfi, Iona, and the original crypt at Glasgow were similar, and gave reasons for believing that they were intended to serve the same purpose, namely, to cover the grave or preserve the relics of the patron saint in such a position that when the choir was built the high altar might be placed exactly over the consecrated spot below. No doubt Columba had been buried about 600 years before a resting-place had been prepared for his relics, but St. Andrew had been buried more than a thousand years before the cathedral at Amalfi was begun. In those days the bones of saints and martyrs went a very long way—the possession of a skull, a leg, or arm bone, if well authenticated, was quite enough to make a shrine famous throughout the world. He did not say that there was evidence to prove that the crypt at Iona had been erected as the shrine of Columba; he only pointed out reasons for believing that it was.

Dr. Honeyman went on to mention some of the peculiarities of the only remaining portion of the old structure. A weather-table on the north wall indicated that the side aisle had at one time extended westwards to the transept. He had cut a trench from north to south a few feet west from the present west wall of the aisle, and found about 2 feet below the surface on the line of the outer wall of the aisle the remains of the old aisle wall, and also that the foundation of the north wall of the choir was only about 2 feet below the surface, proving that the crypt had not extended westwards further than the present aisle.

The floor over the crypt appears to have been of wood carried across the aisle on corbels, and on the side next the choir on a level scarcement 6 inches broad, 18 inches below the surface of the floor. The floor of the present choir is 6 feet 3 inches lower.

Dr. Honeyman pointed out that the natural configuration of the ground, sloping as it does to the south-east, made it easy to construct a crypt without much excavation if the choir floor were only raised (as it evidently was) only 2 feet above the floor at the west end of the nave. That the floor level there has never been materially altered is evident from the fact that it is there we find the remains of the oldest chapel and the oldest nave—the chapel in which tradition says Columba was buried and the nave, which was 5 feet narrower than the existing one.

Rev. Dr. T. Marshall said he had no doubt that the theory of Dr. Honeyman explained a great deal that was otherwise difficult to understand in connection with the cathedral at Iona. He thought they ought to be thankful that the restoration had been taken in hand as it had been, as there were those who believed that if the work had been delayed for many years longer restoration and even preservation would have been impossible.

Mr. H. O. Tarbolton said that few people realised the difficulties that confronted an architect when he undertook the restoration of such a building as Iona Cathedral. Not only had the architect to bring to bear on the work all his technical knowledge as an architect, but he had also to bring into play his historical knowledge. It was difficult to pick up all the threads, fit them in, and then make up his mind as to what was the proper thing to do regardless of what other people might think. Dr. Honeyman had made the work of restoring Iona peculiarly his own, and surely they were entitled to believe that he had done the very best he could for the building.

Rev. Dr. Russell said much had been done, but much remained to be done. He hoped the nave would by-and-by be restored. The choir was restored, and he thought he might say well restored. A sum of 4,000*l.* would do the work, and he trusted it would come some day from some one interested not only in Iona Cathedral but interested in the history of Scotland.

Bishop Dowden, in moving votes of thanks to Dr. Honeyman and Professor Cooper, said the difficulty of accounting for the corbels in the interior of the buildings at Iona seemed to be even greater than in the case of the Carmelite Priory church at Queensferry. At the latter their presence was intelligible. To suggest that there had been a level flooring seemed almost grotesque. That they should have a long building with a low ceiling seemed almost incredible.

Professor Cooper, in replying, said Dr. Honeyman's view was that there had been a flat roof at Iona, leaving a large chamber above. There was the same row of corbels at Queensferry, and evidently there also must have been a flat roof with a chamber above. That seemed to explain the presence of the windows at the east end of the church at Queensferry. He thought there was a bond of resemblance between the Carmelite house at Queensferry and the buildings at Iona. Both were places where they might have an unexpected arrival of guests, who had to be accommodated somewhere, and he was very much inclined to think that the explanation of the flat roof might be to have a chamber overhead, where in the unexpected arrival of a large number of pilgrims beds in the nature of shakedowns could be placed. There was another matter which had not been mentioned. They all hoped not only that the church at Iona might be restored, but that there might be suitable buildings for those who would minister in the church, and perhaps for some who would profit by learning and study there. Dr. Honeyman had told him that the nunnery buildings would make a most excellent school. He hoped that a scheme would be presented which would show some use to be made of it, and he believed that if a well-thought-out scheme was presented to the public subscriptions would come more rapidly than they would until that was done.

Sir James Balfour Paul moved a vote of thanks to the Edinburgh Architectural Association for the use of their hall, and a resolution thanking the chairman for presiding having also been adopted, Dr. Sprott said, in reply, that he hoped Iona might yet become a great centre of piety and learning, and that a scheme would be drawn out which would call forth ample contributions from Scotsmen, and especially from Highlanders, all over the Empire.

ARCHITECTURE AND HISTORY.

At a meeting of the Glasgow School of Art, held on Saturday in the Institution at 167 Renfrew Street, the diplomas granted to public school teachers for proficiency in drawing were presented by Lord Reay. In doing so, he said that the importance of drawing in the curriculum of an elementary school was now generally recognised, and in that district they were fortunate in having been able to organise it on such a sound footing, owing to the fact that they had in Glasgow that admirable school of art, of which every one in Scotland was proud. Since the Scotch Education Department took over the science and art education in Scotland from the South Kensington authorities they in Glasgow had wisely insisted that all drawing should be done from common objects and nature instead of from cards of ornament or geometric models, which were formerly encouraged by the South Kensington Department. The training given in systematic and careful observation, apart from the skill acquired and the interest aroused in the representation of real things was of great value. Referring to architecture his Lordship said:—The public taste required to be educated in order that the architectural merits of our cities, of our public buildings and of our churches might not be overlooked when the public would exercise an enlightened criticism. The architecture of a country was a fair index of its artistic development. Architecture was the best aid that we could have to the teaching of history, and history had been to architecture what steam was to machinery—the grand propelling power—and architecture had been the printing press of all periods. We were often told that Presbyterianism was the enemy of art. He gave an absolute denial to that indictment. There was no prohibition whatever to build a Presbyterian church in any style which might suit its environment, and he was sure that those who worshipped in the church would be grateful to the architect who gave them a design in harmony with the sacred use of the building. The success of the Reformation, it was often forgotten, was largely due to another branch of art—he meant music and melody. It was a fact that the progress of the Reformation in Germany was largely due to the poetry and the hymns of Luther, and we were perfectly justified in making use of what was a Divine gift, whether it be poetry, melody or architecture, in accordance with the simple congregational atmosphere we had inherited from the founders of our Scottish Presbyterianism. In conclusion, he congratulated the teachers who received the diplomas.

A Public Subscription has been opened to erect a memorial in Shaw of Philip Gilbert Hamilton, author and artist, who was born at Laneside.

NOTES AND COMMENTS.

THE acquisition of Bagatelle by the Muncipal Council of Paris was at one time greatly opposed. It belonged to the late Sir RICHARD WALLACE, and was better adapted to serve as a suburban residence than as a public park. An effort was made to utilise the villa for a public gallery, and several English paintings were lent for exhibition. After a short time they were transferred to the Louvre. People in Paris now believe in the possibility of revelations connected with the acquisition of Bagatelle. A case was recently heard in one of the law courts in which the judge decided in favour of a litigant who claimed 75,000 francs for expenses incurred in persuading the Municipal Council to purchase the property. It was declared that members of the Council who were hostile changed their opinion through the diplomacy of the claimant. The recognition by the judge of such a claim is rightly regarded by the Council as an insult. A demand was made for an explanation and apology. It was stated that efforts have been already made to attain that end, and that the Minister of Justice was to be interviewed on the subject.

ILLUSTRATIONS.

MOUNT MELVILLE, ST. ANDREWS, N.B.: WEST FRONT.

CATHEDRAL SERIES.—WAKEFIELD: PART OF SOUTH TRANSEPT.

HOUSE, LUTON HOO. HOUSE, BIDDENHAM, NEAR BEDFORD.

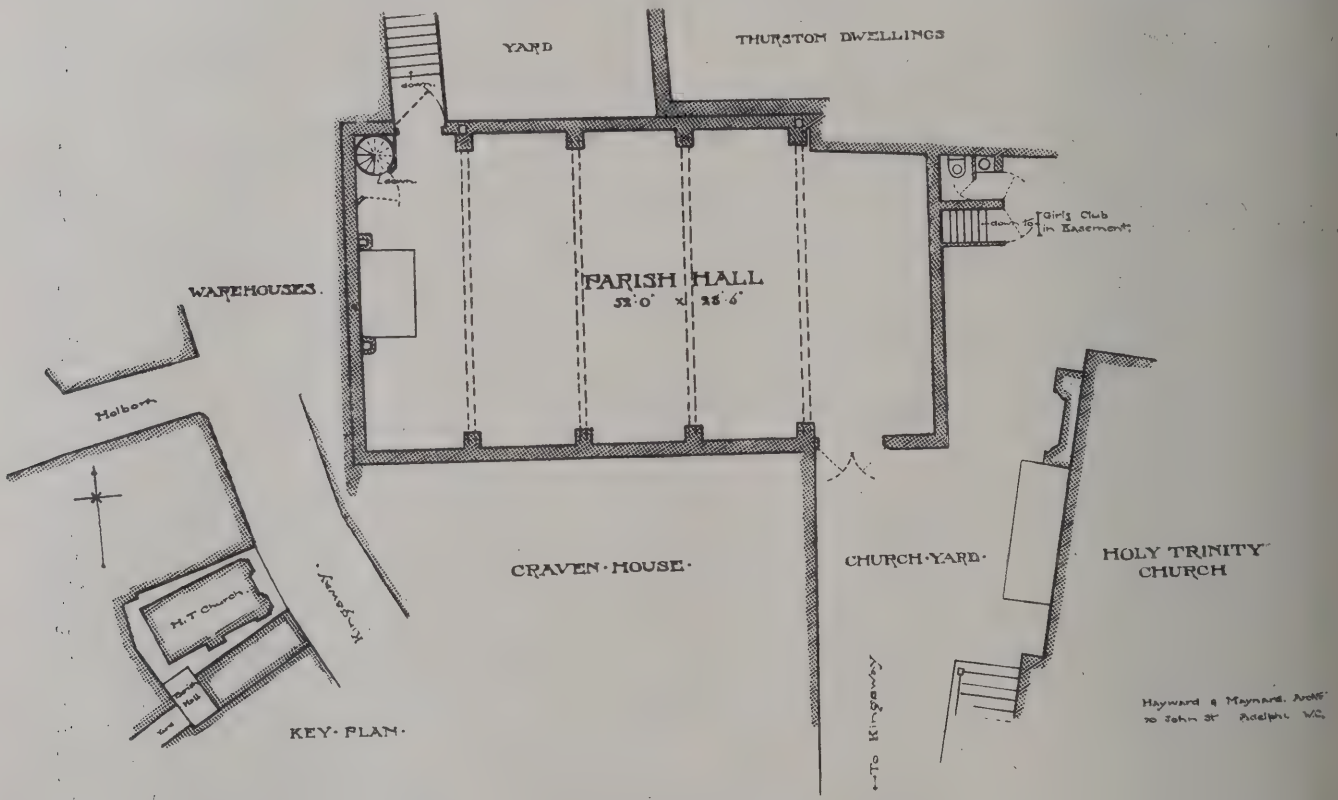
THESE houses were erected in 1898-9, and the drawing of the latter was exhibited at the Royal Academy of 1899. Mr. S. FOSTER, of Kempston, near Bedford, was the builder of the one at Luton Hoo, and Mr. D. DAVIES was the clerk of works. It was built as a residence for the agent of the Luton Hoo estate, on a site in the park on the edge of a wood. Mr. J. P. WHITE, of Bedford, was the builder of the house at Biddenham, Mr. JOHN VAUSE being the clerk of works. Local materials were used in its erection. The billiard-room was omitted, with the intention of building it at some future time. The garden was laid out from designs by the architect, Mr. LOUIS AMBLER, F.R.I.B.A., of London.

ROSSIGNOL, LORD WESTBURY'S PUTNEY ESTATE, SURREY.

THIS residence is one of the picturesque houses amongst the many being erected on the fine estate of Lord WESTBURY, now nearly completed, under the superintendence of his Lordship's surveyor, Mr. J. C. RADFORD, A.M.Inst.C.E., 189 Upper Richmond Road, Putney, from the designs of Mr. ALFRED E. NIGHTINGALE, architect, of Hotham Cottage, Putney. The site is situated on the southern part of the estate, at the corner of Genoa and Chartfield Avenues, Putney Hill, and the house contains four cellars, four reception-rooms, six bedrooms and spacious lofts, dressing-room, bath-room and servants' bath-room, billiard-room, vestibule and elegant panelled hall, conservatory with heating chamber, domestic offices, pantry, china pantry, kitchen yard, tradesmen's entrance and cycle shed. The features of the design consist of the porch, octagonal turret, vestibule windows and circular-fronted stone bay windows. The building is faced with Essex red-facing bricks and LAWRENCE'S red rubbers. The roof is covered with "Rosemary" Staffordshire ornamental tiling, with hipped dormers. There are charming views for miles around from the north, south and west fronts. The grounds are extensive and provide ample space for stabling or garage to be built hereafter. The builder is Mr. B. E. NIGHTINGALE, of London, and the foreman, Mr. S. L. JEFFRIES.

CHURCH ROOM, HOLY TRINITY PARISH CHURCH, KINGSWAY.

THIS parish hall is situate to the south-west of Holy Trinity Church and is approached through the churchyard. It is erected on land purchased from the Crown, and is surrounded by buildings which prevent any elevation of the building being seen from any thoroughfare with the exception of the entrance doorway, which faces Kingsway. The Crown stipulated that no windows were to be opened on the east side, and there being no rights of light belonging to the site on the west side of the room the only means of lighting possible was by dormers on the western slope of room and a large window at the north end. There is seating accommodation for 200 persons, while beneath is a large basement 11 feet high used as a recreation-room for girls, and approached by internal and external staircases. The hall has been constructed to the requirements of the London County Council relating to licensed public buildings, and a license has recently been granted by that body. The work was carried out by the builders, Messrs. SYKES & SONS, of 10 Essex Street, Strand, W.C., under the superintendence of the architects, Messrs. HAYWARD & MAYNARD, 20 John Street, Adelphi, W.C., and was formally opened in July last by the Princess LOUISE OF SCHLESWIG-HOLSTEIN.



THE ARCHITECTURAL ASSOCIATION.

An ordinary general meeting of the Association was held on Friday evening last at Tufton Street, Westminster, Mr. E. Guy Dawber, president, in the chair.

The following were elected as members:—Messrs. Winter Rose, Philip E. Webb, J. W. Jarvis, A. G. Bridger, H. L. Kiddle, Joseph Seddon, B. C. Williams-Ellis, H. G. Taylor, J. E. Henderson, R. O. Adamson, R. W. A. J. Cosway, G. W. Joslin, W. H. Hatchard Smith and G. Flint Clarkson.

A vote of thanks was passed to Professor Henry Adams for his gift of several samples of wood and stone.

The President announced that an At Home would be held at the Association premises on December 8 at 8.30 p.m. He said there would be on that occasion an exhibition of the work done by students during the summer, and he expressed the hope that all members who had made sketches during their vacation would lend drawings, of which great care would be taken.

Mr. J. A. Gotch read the following paper on

Old Manor-Houses.

The title of this paper must not be taken too literally. A manor-house is, strictly speaking, the dwelling-house of the lord of the manor; and a manor was a tract of land granted by the king to some person of note in return for certain services, and over which the grantee had various rights beyond that of possession. The legal aspect of the subject is often both interesting and amusing, but it is not that with which we are now concerned; nor will it be necessary that the manor, from the standpoint of law, should in any way control what is to be said. But a manor-house, being the principal house on the manor and the home of the possessor, was naturally a building of some distinction, although inferior in size and importance to the castles of the great barons. Being a building of some distinction it possessed architectural interest, although not to be ranked among the great examples of architecture. The houses, therefore, which are now to be considered are not necessarily manor-houses in the technical sense, but rather those of medium size and importance, of which the ordinary manor-house was the type.

There were many houses of this kind in existence even in the days which we are accustomed to picture to ourselves as dominated by castles. But a great number of them have disappeared, having been replaced in many instances by more modern dwellings. The Mediæval house was perhaps rebuilt in the reign of Henry VIII., then again in the times of Elizabeth. If the fortunes of the family permitted, it may once more have been transformed in the seventeenth century, and yet again in the eighteenth; nor is it beyond the bounds of possibility that the nineteenth century may have put its uncertain stamp upon the latest successor of the Mediæval original. It is an interesting speculation how long a house which is continuously inhabited will last without reconstruction. Given plenty of money with which to rebuild, and probably a century is as long as the family will care to put up with the old fashions. It is then thought necessary to modernise the place, unless considerations of sentiment or economy induce the builders to retain some of the ancient work.

In consequence of this rebuilding, early houses are not very numerous, and most of those which have survived have undergone frequent alterations; it is therefore difficult to find examples of untouched early Domestic work. Nevertheless, by comparing one fragmentary specimen with another, it is possible to ascertain what were the main lines upon which they were built. Many of them were not strongly fortified even in the turbulent times of the Edwards. They were arranged with a view to defence, it is true, with thick walls and small windows, but it was defence from a casual attack and not from a set siege. They were generally surrounded by a moat, and the stronger ones were furnished with a drawbridge and portcullis, but many of them had merely an ordinary bridge and a strong door. The larger sort were built round a courtyard, which was entered either through a gateway in the house itself or through a gatehouse set in a wall of enclosure. These early dispositions, which took their rise from the necessities for defence, were retained long after the need for such precautions had disappeared; and, without any conscious endeavour on the part of the builders, they added piquancy and interest to the composition.

Another interesting speculation which suggests itself is how far were these old manor-houses the outcome of careful and painstaking design? How much was there of intentional composition in the grouping of their parts? The answers to these questions would probably be found to be "Not very far" and "Not very much." There was, we must remember, a particular style or phase of building in vogue at each period and a particular type of plan. Half the difficulty of the present-day designer, therefore, was removed at once, or rather, it never arose. The wants to be supplied were simple and so also were the means of supplying them. There were a few well-recognised apartments which had to be provided in every house; if more accommodation was required it was added in the simplest way and without much endeavour to harmonise it with the rest of the building. Hence the planning of many old houses is very haphazard, with the result that their appearance is picturesque, but it may be doubted whether the designer aimed intentionally at a picturesque effect. In fact, half the delight which these old houses inspire arises from their unstudied beauty; they look as inevitable as a natural growth. The masons had their traditional methods of solving the simple problems with which they had to deal; they had their ways of making their windows, their doorways, their chimneys. A window more or less here or there offered no difficulty; an additional irregularity did no harm. Especially is this the case in the smaller and less pretentious houses. In those of more importance a greater foresight was often exercised, and where a "surveyor," or, as we should now style him, an "architect," was employed, a good deal of skill was displayed. No one can examine John Thorpe's drawings, for instance, without coming to the conclusion that he was a very ingenious planner and always bore in mind the outward effect which the disposition of his various rooms would produce.

But now let us look at a number of views of old manor-houses of various dates and from all parts of the country. We shall see how much they have in common, and yet how widely different they look, owing largely to the materials of which they are built, which were naturally influenced in a great degree by local conditions. The material which of all others has played the most important part in architecture hitherto is undoubtedly stone. Wherever we look and upon whatever period we fix our eyes we find that probably 90 per cent. of architectural work has been erected in stone, and that of the remainder at least one-half has its ornament executed in that material, even though the bulk of the walls may be built of some other, such as brick. Somewhat the same proportions hold good in respect of these old manor-houses. Most of them are built of stone. Where stone was not readily procured the walling was perhaps of brick or of timber and plaster, but even then stone was used for the ornamental portions. Not so much in half-timberwork, because the wood was easily worked. But in regard to brick and its ally terra-cotta, although they furnish some fine examples in certain districts, yet in point of number they are comparatively insignificant. They occur chiefly in the southern and eastern counties, and even there the mouldings of the windows and doors will sometimes be found to be worked in plaster or cement in imitation of stone.

The illustrations, with two exceptions, are all from photographs which I have taken myself. This necessarily limits their range to a certain extent, but it perhaps helps to increase their reality and insure their genuineness. They are purposely selected from places which, for the most part, are little known, and which therefore will probably be new to many of those present.

The first example is Longthorpe Tower, situated in a small village of that name about two miles west of Peterborough, the village of which Thorpe Hall is now the principal house, a fine and interesting specimen of the work of Inigo Jones's son-in-law, Webb. The Tower is of very different character from the Hall. It was a country-house of the abbots of Peterborough, built for peaceful purposes, but made of sufficient strength to render it secure against casual attack. There is not much left of the original building besides the tower and the end of an apartment which may have been the hall. This is of Early English date, and may be put at about 1250. What the original accommodation may have been is a matter for conjecture; but it probably consisted of a hall, the tower, in which the abbot's private rooms were placed, and some kitchens which have disappeared, possibly because they were built of wood. The house has undergone many alterations. At the end of the limb, which was presumably the hall, there is a fifteenth-century window on the ground floor and a seventeenth-century window above it. There is also a wing of the latter date, and a further addition of modern times. In fact, the house shows signs, like nearly all ancient dwellings, of continuous occupation and continuous changes to meet changing conditions. The most interesting part is the tower itself, which is a Midland version of the Northern peel-towers. It consists of only three floors, whereas in the towers of the north of England and south of Scotland there are usually five floors; but then it must be remembered that northern peel-towers were generally self-contained, and had no adjoining apartments. The ground floor here is provided with extremely small windows, only 4 inches wide; the other two floors, being less accessible from outside, have windows of more cheerful size; but even in the case of the middle storey, which was the chief apartment, it was considered necessary to enlarge the original windows in the seventeenth century. The lights of the two lower storeys are glazed, and it is not impossible that those of the principal room were glazed from the outset, but glass was far too great a luxury to be bestowed upon inferior rooms, and in those days all but the most important windows were provided with nothing more than shutters. The windows of the top floor at Longthorpe have clearly never been glazed from the outset to this day, and it is needless to say that the room is not used for domestic purposes. The ground-floor room was approached from the adjoining building, and so also was the room above it, but access to the topmost room was gained by a narrow staircase in the thickness of the wall, and from this room a second staircase wound round a newel up to the battlements of the roof. The ground floor was merely a cellar or storeplace; the first floor, which alone has a fireplace, was the solar, or lord's private room; while the room over it was probably devoted to his retainers as a sort of watch-tower. In this room there is a latrine in the thickness of the wall.

There were probably some outer defences to the house, but if so they have entirely disappeared, including the moat, which must almost certainly have existed.

The next house in point of date is Woodcroft Castle, not far from Stamford. This presents features which are absent from Longthorpe, but lacks others which exist there. For instance, there is no ancient staircase, nor any sure indications of where it was. The whole place has been more drastically remodelled inside, and restoration (necessary no doubt) has played havoc with the ancient arrangements. On the other hand, the moat remains and the entrance gateway, as well as the chapel above it. Although called a "castle," the house was nothing of the kind; it was not even strongly fortified, since there are no indications of either a drawbridge or portcullis. It depended upon its gates for preventing unwelcome access, and upon its moat, its thick walls and narrow windows for security in other respects. It seems to have been of much greater extent originally, and to have occupied most of the area enclosed by the moat. Of the remains left, not many rooms can be identified with certainty. There is no doubt, of course, about the archway, which was the entrance; the small room on its right was probably the porter's, the large one on the left was perhaps the guard-room. There is nothing to show where the hall and kitchens were. It is equally certain that the room over the archway was the chapel, since the piscina still remains; and there was a gallery over part of the chapel, as indications exist of the gallery front and of the stairs of access.

The round tower, which has survived, was balanced by another at the other end of the front, which has completely disappeared, but it is impossible to say whether there was a tower at each of the other corners. The whole treatment of the place has a somewhat unfamiliar air, and it is quite possible that a foreign architect (shall we call him?) may have been sent from the abbey of Peterborough, which is not very far distant. This place, also, has work of different periods. The original house was built in the closing years of the thirteenth century; the east wing was either built or remodelled in the fifteenth; the chapel was made into a living-room in the seventeenth; and in the nineteenth many evidences of its previous history were blotted out. Not that it had much history attached to it. Only once did Woodcroft emerge from the obscurity which envelopes so many ancient places, and that was in the civil wars, when one Dr. Michael Hudson endeavoured to hold it against a force of Parliamentary troops. In spite of a valiant resistance, the defenders were driven from one stronghold to another until at last Dr. Hudson found himself fighting on the summit of the tower. He was overpowered and thrown over the parapet, but he clung tenaciously to the gargoyle which may yet be seen projecting over the waters of the moat. His assailants hacked at his fingers, and he fell into the moat below, whence he struggled to the land. But for some reason he was highly obnoxious to his enemies, who included many men from the neighbourhood, and it was one of the latter who struck the fatal blow when the indomitable doctor reached the bank. The incident has been utilised by Scott in "Woodstock," in which the character of the intriguing Dr. Rochecliffe was suggested by Dr. Michael Hudson.

Nearly two centuries had elapsed before the next house of our series was built. It is at Kirby Muxloe, in Leicestershire, and is again wrongly called a castle. Castle it was not, but a fortified dwelling-house, rather more carefully fortified than the former examples. Unlike them it was not in continuous occupation for very long; there is no history attached to it, nor are there any contemporary records to throw light upon its origin or decay, but, judging by the excellent preservation of the little moulded work which has survived, it could not have been subject to the wear and tear of daily life for any great length of time. Unlike them, too, it is built of brick, but its mouldings are of stone. There is not an abundant supply of stone in that district, and what there is is hard to work; accordingly the detail is large in scale. The actual remains of the house are not extensive, but the outline of the walls can still be traced, and they indicate that it must have been of considerable size. It was surrounded by a moat which washed the walls on every side, and the main disposition was almost truly symmetrical. This fact is interesting in view of the dominating part which symmetry played some century later when the Italian influence was becoming paramount in English design. The gatehouse is the most important feature left, and this consists of an archway, with a porter's room on each side, the whole being surmounted on the next floor by a large guard-room. There was a drawbridge and a portcullis. The recess into which the former was drawn up and the holes for the chains which raised it are plainly visible. So also are the grooves for the portcullis and the recess in the wall of the guard-room which contained it when elevated. These means of passive resistance were supplemented by others of an active kind, for in the flanking towers are circular orifices, through which the muzzles of cannon were thrust, a method of defence of which there are not many examples to be seen of this date, which is about 1480. The red brickwork is ornamented in places with a diaper of blue—a fashion which became very prevalent during the next century. Among the patterns which a patient scrutiny reveals are the letters "W. H." and a heraldic "manch," the initials and cognisance of William Lord Hastings, who, if tradition can be believed, built the house for the celebrated Jane Shore. It may be so, and in that case the strength of the defensive works seems to indicate that his lordship, having got the lady there, intended to keep her.

Of about the same date, but rather earlier, is the interesting manor-house of Stoke Albany, in Northamptonshire, which, again, is only a small half of the original house. Its principal features are the windows, buttresses and entrance door on the main front. The doorway is a well-moulded, pointed opening, surmounted by two shields of arms, the forerunners of the heraldic displays with which the Elizabethan designers loved to adorn their porches.

To the Gothic period belongs also the quaint fireplace of a small farmhouse in Somerset called Churchill Park, where the great oak beam is cut to form a flat-pointed arch, and is panelled with quatrefoils and cusps.

So far the houses which we have examined have all been Gothic in their treatment. We now come to the period when the influence of the Italian manner began to be felt. The change was gradual, more gradual than that from any one of the preceding styles to the next. The actual causes of the change of style in Mediæval times have never yet been thoroughly explained. How was it that, within ten or fifteen years, the forms given to the ornamental parts of buildings should have altered so completely as to constitute a new and distinct style, and that the change should have affected work over the whole country at the same time? Where was the dictator of fashion located? And how came he, in those days of difficult communication, to influence simultaneously districts so far apart as Yorkshire and Devonshire, Norfolk and Cheshire? Whatever he was—guild or fraternity or society of Freemasons—and wherever he existed, his ways were less sudden in the sixteenth century than they were in the thirteenth, for when the foreign forms had found a lodgment in England they were by no means universally adopted, and the old traditional methods of work were retained side by side with the new for some thirty or forty years. The Italianising of English work was a slow process. It began in Henry VII.'s tomb at the instigation of the king, his son, and it was more or less in court circles that the new mode was practised. One or two houses of the nobility built between the years 1520 and 1530, such as Layer Marney in Essex, and Sutton Place in Surrey, were strongly touched with the new influence. But even here the ancient ideas lingered, and Gothic work is to be found side by side with a rendering, more or less faithful, of Italian detail. Sutton Place is a case in point, where the main lines are still Gothic, while the applied ornament is of the Italian type. At The Vyne, in Hampshire, the linen panelling which covers the walls has curious new touches about it, and a Gothic-headed doorway is surmounted by a panel of thoroughly Italian feeling. The same infusion of foreign ideas is to be found in much, though not all, of the work of the first half of the sixteenth century. At Deene Park, in Northamptonshire, for instance, it is visible only in the scrollwork attached to the coat-of-arms of Henry VII. At Clifton Maybank, in Dorset, the beautiful front had much of the new detail, while the bulk of the work was largely English. So fine a piece of work was this front that it was removed and re-erected at Montacute, and the remnant of the house at Clifton has but little of the new fashion about it. It is impossible to look at this house without noticing the bay window high up in the gable—a somewhat unusual position, but one which was copied at Montacute, and this feature serves to remind us what an important part the bay window played in the design of Elizabethan houses.

The worthy masons of England were much exercised by the new fashion. Brought up in Gothic traditions, they found themselves compelled to adopt a style of ornament quite strange to them, and of which they did not grasp the underlying principles. Some of them were clever, some were merely honest plodders, and the result of their endeavours sometimes arouses admiration, sometimes amusement, sometimes pity and sometimes, in unsympathetic breasts, contempt not wholly free from rage. At Dingley, in Northamptonshire, is one of the most curious examples of the good Englishman striving with these puzzling foreign fashions. His arches are pointed, but they spring from Classic columns; his gables assume strange outlines, and his Classic mouldings are diversified with curious Gothic beads, introduced in a manner which would have shocked Palladio.

But we must return from this digression on style to the consideration of the growth of our manor-houses. By the time at which we have now arrived, halfway through the sixteenth century, the fortification of houses had gone out of fashion; there was no longer need for it. Nevertheless, as it was difficult to get rid of old habits, so it was difficult to dispense with old features and old methods of planning. The courtyard idea lingered on long after the need for such a disposition had ceased. But, no doubt, the desire survived for keeping control over those who went in and out, and therefore the porter's lodge was still retained; and this was flanked in some cases by towers which preserved the appearance of those which in former days defended the gateway of a Mediæval castle, although they no longer fulfilled the same functions. But, as time went on, so the defensive precautions grew less, and houses were made more and more cheerful. Windows were made larger, and placed without hesitation on outside walls. Prospect was taken into account, although it did not yet determine the whole position and arrangement of the house; the garden was cared for and laid out with an eye to display, and the whole place was arranged with a view to a quiet, peaceful country existence. The development of this side of life may be well traced in such a house as Canons Ashby, in Northamptonshire.

The prevailing idea of the well-to-do squire was, like Dogberry, to have everything handsome about him. The body of the house was spacious, and in obedience to the custom now well established, it was usually planned in a symmetrical manner. The walls inside were panelled, the ceilings covered with designs of greater or less intricacy, the chimneypieces were made large and handsome, the staircases wide and massive. Heraldry was called upon to help in the decoration, and there are very few houses at all well preserved which do not reveal much of their history through the help of this beautiful and fascinating science, or art, should it be called?

The same general treatment was adopted in all parts of the country, and the result varied according to the nature of the local materials and the skill of the craftsmen employed. In districts such as Lancashire, Yorkshire and Derbyshire, where the stone is hard, and in Cornwall where granite was used, the detail is plain. In the Midlands it is often rich and elaborate. The plasterwork is sometimes admirable in design and execution. In remote places it is often puerile. Many of the smaller houses depend for their effect more upon their simple and picturesque outline than upon richness of ornament. Throughout all these years the plan of the house had been of the same type, namely, a large hall as the chief apartment, supplemented by rooms for the family at one end and rooms for the servants at the other. An adaptation of this idea on a small scale may be seen at Cold Ashton, in Gloucestershire, which also retains its forecourt and entrance gateway. The formal arrangement of the approach, even though on a quite small scale, as in this house and at Eyam, in Derbyshire, lends distinction and dignity not to be obtained by a haphazard arrangement.

With the advent of the seventeenth century the Italian influence gained more ground and began to affect not merely the detail, but the actual disposition of houses; and yet, side by side with this change, there lingered on the methods of fifty years before. At Houghton Conquest, in Bedfordshire, is a house built for the accomplished Countess of Pembroke, Sidney's sister, Pembroke's mother. You remember Ben Jonson's epitaph:—

> Underneath this sable herse
> Lies the subject of all verse,
> Sidney's sister, Pembroke's mother,—
> Death! ere thou hast slain another,
> Learned and fair and good as she,
> Time shall throw a dart at thee.

This house combines mullioned windows with a very pronounced Italian treatment of the loggia. While at Ragdale, in Leicestershire, built by Sir Henry Shirley in 1629-31, is a hall which retains the far simpler treatment reminiscent of Elizabeth's days. In the same county is Stapleford Hall, where, at about the same time (1633), William Sherard had rebuilt a wing in which he combined some ancient Gothic niches and statues with the gables and dormers which were characteristic of his own period.

The change towards stricter Italian detail produced many interesting pieces of design, in which it is evident that the mason, although compelled to adopt the prevailing fashion, yet rebelled against giving up his ancient freedom in favour of strict rules, with a result both quaint and interesting. Such is the doorway at Chelvey Court, not far from Bath. The advance of formalism and the change in the disposition of the accommodation of the house may also be seen at Chelvey Court, in Somerset, where there is no longer a central hall, but merely an ante-room leading to the living-rooms and the staircase. Here, although the plan has changed from the Elizabethan and Jacobean type, the porch and many of the windows are still of that style.

Formalism continued to increase as the years went by, especially in the larger houses, but in those of the manor-house type it was restrained chiefly on account of expense, and the simpler forms of the eighteenth-century house are nearly as pleasant to look upon and harmonise as well with the English landscape as the mullioned houses of a hundred years earlier. They frequently exhibit a little play of fancy in parts of the design, although in the nature of things the increased deference paid to set rules precluded those unrestricted flights which are so charming a characteristic of earlier and freer days. But if the houses offered less scope for the imagination, the garden gave it a wide range, and we owe to the eighteenth century some of the most charming designs for the surroundings of the house which could be desired. This is not the occasion for pursuing that branch of design at any length, but, broadly speaking, all the most delightful old gardens, with their straight walks, their clipped hedges, their statues, lead vases and pleasant summer-houses, were laid out in the early years of the century before last. Not that the seventeenth century neglected this part of the process of making a home—not at all. The Parliamentary surveys of the houses belonging to Charles I. give dry, formal descriptions which the imagination can easily expand into the most glowing pictures. Sir William Temple was a great gardener. Numberless examples might be mentioned of splendid lay-outs—Hampton Court, Boughton House, Badminton, &c.; but these are much vaster in scale than our manor-houses, and many of them have been destroyed. We may fairly say that the high-water mark of beautiful gardening was attained in the first quarter of the eighteenth century. We have already seen one example at Canons Ashby, and must content ourselves on this occasion with a brief glimpse into the lovely garden at Melbourne, in Derbyshire.

Such is the all too brief and superficial account of the old manor-houses of our English counties. But to those whose work lies in great cities it may, with its illustrations, have brought a welcome breath of country air; to those whose feet are still on the threshold of our noble art it may have offered a transient view of the by-paths which lie waiting to be explored in the vast domain upon which they are entering—by-paths, the pursuit of which will at once enrich their imagination and afford a welcome relaxation from their sterner duties.

Mr. H. D. Searles-Wood said it gave him very great pleasure to propose a vote of thanks to Mr. Gotch for his paper. He thought that lectures of the kind they had just heard were most useful, for they refreshed the memory of older members of many a pleasant jaunt, while to the younger members of the Association they were very instructive, and they pointed to a moral in which all could take a part. It added much to the interest of an old house if the heraldic devices could be read, and it was to be regretted that there was no handbook which could give students the cognisances. The only houses with which he was well acquainted were Barrington Court and Montacute. Barrington Court was for sale, and it seemed a great pity if such a relic of the past was not preserved for the nation.

Mr. T. Flint Clarkson seconded the vote of thanks.

Mr. M. Garbutt questioned whether certain loopholes in the gatehouse at Kirby Muxloe were used for cannon. Judged by their size he thought they were intended for smaller weapons.

Mr. John Murray said that whilst looking at the lantern views he had been struck by the particularly simple treatment of design adopted in old houses, and the amount of restraint he thought shown by the architects of those days might very well be copied by the present generation. The students of the Association he suggested should learn a lesson from that point. The subject was well worthy of close and careful study, and he felt sure it would influence them in their modern architecture.

Mr. W. A. Forsyth said the subject of the paper did not admit of discussion, Mr. Gotch had made it so particularly his own. The great value of the lecture rested in the fact they had been brought in touch with many old places they had never heard of before.

Mr. H. P. G. Maule asked about the development of the plan of old houses, because they were interested, he said, to learn whether the plan was evolved from the smaller house upwards or from the larger house downwards, or the old castles. In many cases the idea was suggested that the house had grown from a nucleus of small rooms about a hall and a kitchen, which had gradually increased until the development became a great U plan. Yeomen's houses in early times constantly showed development of that type.

The President said they were indebted to Mr. Gotch for showing them views of out-of-the-way and unknown houses; the paper was exceptionally delightful. It had always been a question to him as to how far the beauty of old manor-houses was attributable to actual design or to haphazard methods of building. The paper suggested that it was due to haphazard building which happened to develop in a picturesque way, and that no doubt was true. There was another point to be borne in mind, one which governed the planning and the great art of arrangement; it was the roofing which determined the plan. They would have noticed in the slides that the wings of the houses were of one single span, and when more accommodation was needed a piece was added at either end.

Mr. Gotch, in reply, said he did not think so much attention was paid to the effect of appearance in the old houses as was the practice in modern work. They built constructionally, not because it was picturesque. The carrying out of constructional truth ever resulted in something good to look upon, and that was the reason for the pleasant appearance of the old manor-houses.

The Society of Architects has made a special donation of fifty guineas to the funds of the Architects' Benevolent Society, in response to Mr. Belcher's recent appeal. Mr. Walter W. Thomas, the immediate past president of the Society of Architects, has given ten guineas, while other members of the Council and the Society have intimated their intention of contributing to the same fund.

LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY.

THE opening general meeting was held at the Queen's Hotel, Leeds, on Thursday, November 16, when the following address was delivered by the president, Mr. G. Bertram Bulmer, F.R.I.B.A.:—

The wheel of time has made one more revolution, and I find myself addressing you again as President of this Society. My long connection with it—extending to nearly thirty years—will be evidence to you that I have had always a deep interest in your welfare, and can assure you that I shall continue to take an interest in your prosperity and progress, although the time has come when younger and more active spirits will have to take the helm and steer your barque upon its appointed course. I thank the members of Council for their support in the past year, and I am looking forward to the assistance of the vice-presidents in holding the meetings of the coming session. During the year we have lost the services of Mr. R. P. Oglesby. You all know the usefulness of a Society like ours is largely affected by the ability and vigour which its hon. secretary brings to his task, and in losing Mr. Oglesby we have lost an official whose enthusiasm and devotion to his work attained a high pitch, and we offer the thanks of this Society to him and our best wishes for success in his new career. His duties have now passed into the hands of Mr. A. E. Kirk, and we welcome him as one who will vie with his predecessor in keeping this Society in the front rank of the R.I.B.A.'s allied societies. "We have got the men." I wish I could finish the quotation and say "we have got the money, too." The question of finance is becoming a very important one, as our treasury is much depleted by the undertakings of the last three years, and there is in front of us a large amount of work to do and consequent expense, if we continue to maintain our support to the Architects' Enrolment Bill and the Board of Education. Our members must consider the possibilities of the situation, and endeavour to strengthen our financial position by every means in their power. "Heaven helps those who help themselves," and we must not rely on the purse of an honorary treasurer to meet our deficiencies. By observing strict economy during the coming year I have no doubt we shall have a balance on the right side, but we should much prefer to have an ample reserve to meet exceptional calls. I draw your attention to this matter in the hope that some special effort may be made in which I shall be only too glad to bear my part.

The work and uses of this Society are, I think, becoming every year of more concern to the associate members, and as I shall have presently to present to the winners the prizes offered by this Society for the past year's work, I propose to say a few words of encouragement and advice to them, drawn from my own experience. To the associates generally I would say—Remember that you are a brotherhood with similar aims and objects in life, and as such I advise you to maintain that comradeship and fellow-feeling which obtains in school and camp. Remember that the associate of to-day is the full member to-morrow, and that as you succeed and do honour to the earlier position, so you will be likely to be useful and honourable workers in the higher grade, where you can do much to advance your profession, and the position and happiness of yourself and colleagues. To you, prizetakers, who have worthily employed the talents entrusted to you, and whose efforts we shall reward to-night, I would say—Continue in the course which you have marked out for yourselves. Do not abate the enthusiasm and interest which you are now throwing into your calling. Architecture is an art so difficult, so interesting, so many-sided, that no man's life is long enough to master its ramifications, and the mine of study in which you are now delving is one of exhaustless treasure. This Society congratulates you on your successes, and is proud to enrol you amongst its members.

To you who have not won prizes I will offer no sickly commiseration. It is not necessary. Your work and labour will undoubtedly strengthen you for further efforts and pave the way to ultimate success. The race is not always to the swift. Steady endurance and perseverance will eventually earn a reward, and, indeed, there is a pleasure in engaging in these contests which exceeds the pleasure of taking a prize. Nevertheless, I would encourage you to continue your efforts as competitors for this Society's prizes with the determination that, if you have lost to-day, a future competition shall find you amongst the winners.

May I now say a few words to our practising members? I should like to remind them that the alliance of this ciety with the Royal Institute of British Architects ves them a direct and important influence on the e of our central institution, and having as many as venteen allied societies, their united opinion must carry ight with the Institute Council. I would therefore ask u to do all in your power to strengthen our hands. ere are many who continue to give us the support of eir names and subscriptions, but never take any part in r deliberations, and whose advice would be very valuable us. Also I should like to see the Society strengthened the addition of more members throughout the county, so at even isolated practitioners, through us, would obtain a iding hand in the control of our professional interests, a atter at the present juncture of paramount importance.

Our list of honorary members might also be enlarged th advantage. The hope of the architecture of the future largely dependent on the interest the public take in it, and we can enlist the support of men of light and leading tside our profession—men who are largely concerned in omoting civic and private undertakings—I feel sure that thing but good would result. To those who have suprted us, in some cases for a long period, we owe our anks.

In these annual addresses it is usual to give some account the important buildings of the year, but I regret to say at within the city there is little to mention. The completion of many important works last year, and the stagnant ndition of trade at the present time, accounts for this. r. Thorp has completed a block for the Phœnix Insurance fice in South Parade, and Mr. Percy Robinson buildings Duncan Street. Additions have been made by my firm the Yorkshire Penny Bank, and we have in hand a large ock of offices at the bottom of East Parade, and Mr. Thorp important building in Albion Street for the Young Men's ristian Association. Mr. Bakewell has at Ilkley a unicipal building and free library for the Local Board, d Mr. Vickers-Edwards numerous schools for the Education Department of the County Council, and extensive ylum works. Mr. Chorley has completed a church at en Rhydding, and has another in progress at Helli-ld, as well as the Leeds Girls' Grammar school in Otley oad. Doubtless this list could be augmented, but limited ace forbids.

I am glad to say that the general business of the Society irsues the even tenor of its way. Our library, safely oused in the premises of the Leeds Free Lending Library, mains a useful adjunct of our institution. The classes, eld in our own rooms and the premises of the Leeds stitute, continue to do good work, and we contemplate me extensions in this direction to meet the requirements day pupils, and the curriculum may need some further ljustment to fall in line as far as possible with the views the R.I.B.A. Board of Education. Our lecture list is an ccellent one, and we hope that the goodness of the cturers in coming such long distances to aid and assist us ill be repaid by an adequate attendance of all classes of embers and their friends, who can be introduced, by rmission, to the sessional lectures.

I have touched lightly on various matters pertaining to ir Society and its work. I propose now to deal with some iestions which affect us in our relationship with the .I.B.A. The most important of these is the movement in vour of registration, and I will briefly outline the steps hich have been taken in that direction.

In January 1904 the Institute Council, which had been ected to support the movement, appointed a registration mmittee consisting of its own members and representaves of the allied societies. They appointed a subommittee to formulate a scheme for the compulsory aining, education, examination and statutory qualification architects. The committee considered that the only way obtain the above objects was by means of parliamentary wers to prevent any person using the title "architect" who id not passed qualifying examinations such as are now quired, or will be at the end of 1906, to obtain admission to e Institute. The committee met monthly and held morning id afternoon sittings with the result that a Bill was afted, with the aid of the Institute's solicitors and the ninent counsel, Mr. Cripps, K.C., and Mr. Clode, and hich has been entitled "A Bill to secure the Enrolment of rchitects." At a Council meeting held in June 1905, this ill was adopted and ordered to be circulated along with e committee's report to all members of the Institute, and complete copy of the Bill will be found in the Institute urnal (No. 17) for July 22, 1905, to which I refer my earers. The new Council, recently elected, does not contain the *personnel* which was so active in promoting the Bill, and it remains to be seen what steps will be taken to utilise the weapon forged with such labour and assiduity by the registration sub-committee.

The matter will not be allowed to rest, and we hope to see the Bill introduced into Parliament, supported by the Institute, its allied societies and the profession generally. The feeling in favour of the Bill is, I believe, rapidly extending, and if the Institute is to represent the profession it must sooner or later carry this movement to a successful issue. The President and Council which perform this good work will earn the gratitude of the public and the profession, and will lay the foundation of the Institute for all time.

Another question in which our interests are closely interwoven with the Institute is the education question, and it is a matter of some difficulty. Many of the provincial societies are each in their own way grappling with it, but it has been thought that the various systems should be coordinated, and a uniform system of education established. With this object in view a Board of Architectural Education was constituted by the Institute Council in May 1904, consisting of certain members of the Institute, two representatives of the Architectural Association and a body of advisory members representing the universities and other educational bodies, and including the architectural schools of Liverpool, Manchester, Leeds, Birmingham, Edinburgh, Dublin and Cardiff.

The Board has drawn up a curriculum which it recommends for general adoption. A four years' course, the two first of which shall be spent in the schools and the remaining two in an architect's office, school training to be continued through the second term; the Board to maintain a supervision over the pupils during the whole period. An excellent system, but I cannot at present see how it is to be carried into execution. The equipment of schools or studios would be an expensive matter, and even the large towns would have to look to the Institute for financial assistance to develop their existing schools on these lines, and at the present time many pupils go into an architect's office who could not afford to leave home and reside in the great centres and pay heavy school fees in addition to the premiums they pay to enter an architect's office. The whole subject bristles with difficulties, so far, at any rate, as the provinces are concerned, and must receive the earnest consideration of the provincial societies if the scheme is to be carried into effect successfully.

There is yet another item to which I should like to draw your attention—"The Conduct of Competitions." Nearly every architect has experience of the worry and unnecessary expense and trouble attending these transactions, and much has been done of late years to mitigate the evils. Opinion seems yet to be considerably divided on many points, and, although the employment of a professional assessor is becoming daily more frequent, to the advantage of the public and the profession, the mode of selecting assessors and the method and rules by which they regulate their action has not given entire satisfaction and calls for amendment. The recent fiasco at Hove is a striking example of how a competition can go wrong, although under the hands of the able leader of our profession. To my mind we should endeavour to minimise the evils by declining competition unless the commission to be earned is of a certain amount, and assessors should do all in their power to reduce the cost of preparing designs by adopting a small scale, and permitting work drawn in pencil, and limiting the number of drawings required to a minimum.

It is a great step forward to find that promoters are so willing to take the advice of the Institute in organising their competitions, and with such an opportunity the Council should spare no effort to see that the interests of architects are thoroughly safeguarded. To the Council of the Institute we must look as the champion of this cause.

Now let me turn from the details which so intimately concern us and give some thought to the amenities of the city in which we live. As artists we desire to see it comely in form and colour; as citizens to find it sweet and sanitary, free from all unsightly embellishments, provided with open spaces for light and air and wide streets for the circulation of traffic. For some years these principles have been recognised by our authorities, and praiseworthy efforts made in all these directions. Why, then, do we nullify our efforts by permitting so much that is opposed to them? Perhaps the greatest destroyer of our architectural efforts is the advertising fiend, whose emissaries are overrunning every corner of the city and suburbs. No place is safe from their encroachments. The main streets of the city, the highways which lead to and from it, the country lane—once sacred to rural beauty—are alike desecrated by the advertisement hoarding and the flaring lettering of the self-seeking advertiser. This growing nuisance must be controlled, and town and country authorities have more power to deal with transgressors. Owners of property also could assist by prohibiting their tenants from defacing the buildings with signboards and prominent lettering, confining all privileges in this direction within strict limits. Half a century has passed away since the French imposed restrictions. We have a national Society dealing with the question, which was formed in 1893, and in the spring of this year the Advertisement Regulation Bill passed its second reading in the House of Lords; but the evil is so widespread that it will be necessary to form an overwhelming public opinion which will perceive the folly of spending money and effort in beautifying our cities and buildings, and mutilating the result with flaming advertisements. Yet another feature will have to be eliminated if we intend to promote the æsthetic treatment of our great thoroughfares—the standards and overhead wires in connection with our tram system. It is to be desired that engineering skill will devise a method to bring this about. Another means of obtaining a clean and cheerful aspect for our streets is the use of cleansable material, such as hard bricks and terra-cotta, and we have two samples in this city which periodically renew their pristine beauty, and will continue to do so for ages to come by the application of water supplied by a hose-pipe. Unfortunately terra-cotta lends itself so readily to the repetition of ornament that there is danger of making our designs too elaborate, and the multiplication of ornamental features makes the cleansing process more difficult. Therefore we should aim at plain wall surfaces, with high-class decoration sparingly used.

At the risk of wearying you I will draw your attention to one more subject in this connection, and not by any means the least. Prevention, it is said, is better than cure, and to reduce the dirt and smoke created in our vast city is of paramount importance and does not receive the consideration it deserves. In private dwellings much may be done to reduce the smoke nuisance by using fireplaces of the most approved design, and in business premises by circulating hot water for heating purposes from a boiler and furnace to which smoke-consuming appliances can be attached. The large manufacturing concerns are the great producers of smoke, and much is done doubtless to keep them within bounds, but I submit there is a field here for further effort on the part of designers of smoke-consuming apparatus and the authorities whose duty it is to see them applied.

I thank you, gentlemen, for the attention you have given to my desultory remarks, and will conclude my address by supporting the appeal made by Mr. Belcher for further help for the Architects' Benevolent Society. We have arranged to give an annual subscription which I should like to see increased, and Mr. Sydney D. Kitson has kindly agreed to act as hon. secretary. I trust that the Leeds and Yorkshire Architectural Society will earn distinction by doing all in its power to support this Institution in its good work of aiding the sick and unfortunate members of our profession.

On the motion of Mr. W. H. Thorp and seconded by Mr. W. G. Smithson, the President was warmly thanked for his address. Mr. Bulmer presented the prizes which had been awarded as follows:—Measured drawings, silver medal and President's prize of 5*l.* 5*s.*, Mr. W. Whitehead. Sketching: first, Mr. W. J. Freeman and Mr. W. Whitehead; second, Mr. J. Greaves. Design: first, Mr. W. P. Rylatt; second, Mr. W. Whitehead. Essay, Mr. W. P. Rylatt. Construction, Mr. W. P. Rylatt. Halden prize of 4*l.* 4*s.*, Mr. W. Foggett. An enjoyable smoking concert followed, the programme having been arranged by Mr. P. Robinson.

The London County Council have given notice of a Bill to prohibit, with the consent of the owners of or other persons having any estate or interest in certain lands in the administrative county of London (which will be specified in the Bill), and either permanently or for such periods or during the continuance of such interests as the Bill may prescribe, the erection of buildings, structures or erections upon any part of such lands. This is a renewal of the efforts to preserve the squares and enclosures of the Metropolis.

SCHOOLS OF PAINTING.

THIS year's course of "Hermione Lectures" at th Alexandra College, Dublin, was undertaken by M George Clausen, A.R.A., who treated of "The past Schoo of Painting and their relation to those of the present day In the first lecture Mr. Clausen explained the principl adopted at the beginning of art, and now maintained largel in the art of Japan. He showed some reproductions Roman art from Pompeii and Herculaneum as illustratin the employment of light and shade. The re-birth of art i the time of Cimabue was next touched upon, and h described the great advance made by Masaccio, whos influence upon the subsequent development of paintin could hardly be exaggerated, and whose work on the wall of the church of the Carmine in Florence formed a schoo for Leonardo, Michel Angelo and Raphael.

In the second lecture, according to the *Irish Times*, M Clausen remarked that practically up to the time of Raphae all painters used fresco for their large works in the adorn ment of buildings. When oil-painting became known was gladly welcomed, as it gave a greater range to the artist whose work was made to correspond more truly with th range of colour as seen in nature, thereby making more effective. The early artists were very simple i their lighting. They depended upon the harmony o colour in one illumination rather than in a contrast o light and shade. They now came to a time when every resource of painting was used for the purpose of giving t a picture its most telling effect. Mr. Clausen said that much was due to Van Eyck, who perfected a method that ha hitherto been imperfect. That was about the opening o the fifteenth century. The result of Van Eyck's work was that when the Italian painters saw his pictures they wen to Flanders in order to learn his secrets. The three grea painters of whom he wished to speak were Titian, Rembrandt and Velasquez. Each of these developed some one quality in painting to the fullest extent possible, so that their work could not be surpassed. Titian was the greatest colourist. He gave by means of colour the sentiment of his picture more than any artist had done, and he kept the whole scheme within the range of nature. Titian was, perhaps, the first landscape-painter. The older painters were so occupied in putting down their facts that they forgot the moving effects in which the facts were seen. Titian, however, made great use of the beauty which a passing cloud gave to the landscape. The use of shadows in his pictures made one harmonious whole. Titian was also one of the first portrait-painters. Reynolds said in his "Discourses" that although Titian's right to the first place in history-painting might be disputed, there was no doubt that in portrait-painting he held absolutely the first place. Had Reynolds, however, known Velasquez's work at that time he might have modified his statement, and put two men on the throne. Titian always lit his portraits broadly and simply, so that nothing was seen except the essentials. The lecturer then dealt with the characteristics of Velasquez. His work showed the influence of Titian in its planning and arrangement, but, most of all, it showed the influence of nature. Titian painted elaborately; Velasquez simply. The work of Velasquez showed a most remarkable judgment that never seemed to err. He carried the science of painting to its most extreme point, but he did it with the utmost freedom and ease. As an example of this, the lecturer showed a reproduction of one of Velasquez's pictures, "The Admiral," and dwelt upon its complete and beautiful finish. Mr. Clausen remarked, *en passant*, that that picture was said to be painted with brushes 6 feet in length, so that the artist was able to be at a distance from the canvas. Sargent and Millais sometimes painted in that manner. "The Head of Philip" was also shown, which was remarkable for the beautiful colouring and modelling of the face. It was one of the "heads" that had never been surpassed in painting. The great masterpiece of Velasquez, "The Maids of Honour," was next shown. The most remarkable feature about it, the lecturer thought, was the placing of the figures just as they would be in a room. It was something of a puzzle picture, as it was difficult to know exactly how it was painted. The beauty of the arrangement and of the painting of the figures was marvellous. The main point about Velasquez's work was the absolute acceptance of a thing as he saw it; he was able to paint it so well that it became beautiful. Referring to Rembrandt, the lecturer said that he was, perhaps, the greatest poet-painter. Rembrandt seemed to have studied everything, while his inventive faculties were very great. He took for his subjects the most common and ungainly things. He showed that beauty uld exist under the most unlikely forms. It was not the ual thing itself that was beautiful, but rather the luences of light and air that acted upon it. Rembrandt's rk had no reference to other schools; it stood quite by elf. The problems of light which he faced and expressed re never touched on by other artists of his time. The int about Rembrandt's work, in which he differed from er artists, was the small amount of light he admitted in pictures. This was especially so in his "night" paint- gs. As an example the lecturer showed "The Repose of Holy Family" and "The Adoration of the Shepherds," d said that at first glance they appeared to be gloomy, but adually they grew lighter and lighter and the spectator t at last that he almost knew the figures. Rembrandt picted so faithfully the dramatic side of the incidents that almost persuaded the onlooker they were real. In mbrandt they could not help thinking that they had one the geniuses of the world. In Rembrandt the great rtion of the picture was dark, but with Claude it was quite reverse. Claude was the first great artist who realised at light was a dominant factor. His work showed a rough and learned analysis of the action of direct light. Clausen then passed on to Watteau, one of the finest the French school. His work was founded on the netians, and the lecturer thought a little on Rembrandt. had a fine sense of colour and of concentration. The ures were so arranged that they had to be regarded in eir natural sequence. Reynolds, too, was an example of ncentration, while he revealed a close study of the old inters, not so much of their methods, but of the manner which light and shade were produced. He took as a atter of course the drawing and expression of the character. "Lord Heathfield" Reynolds was shown at his best. Its ry was told clearly and simply and without any stretch- g of the points. The difference between Reynolds and insborough was that while Reynolds reasoned out every- ing, Gainsborough worked impulsively. The execution the latter was instinctive, and in many ways it was like lasquez. For instance, in "The Admiral," which they d just seen, the similarity would be noticed. In conclu- n, the lecturer pointed out that they should remember th pride that at the time when Reynolds and Gains- rough were painting there was nowhere in the world ch work being done. At that period there was no school Italy, France or Holland which could show work com- rable to them. It was similar with the minor arts. It s remarkable that that outburst of talent occurred all at e short time in their history.

Mr. Clausen, in his third lecture, said that matters were ade apparent to them in nature in two ways—by their m and by their colour. Sculpture appealed by the sense form, and it was the discovery of a great number of eek and Roman sculptural studies that gave to the artists the Renaissance that impulse by which they attained eat heights. Leonardo was one of the first to profit by study of the antique, and it was also studied by Michel gelo, whilst Raphael formed his style upon these great rks. It was through the study of the antique that onardo, Michel Angelo and Raphael found out the ideal auty of form. That ideal was called style. In order to plain the influence the study of the antique had upon the rks of these artists, the lecturer first showed a number photographs of some Greek and Roman sculpture, and n a drawing of a figure in one of Michel Angelo's scoes. The main features of Greek sculpture were nplicity of form and beauty of proportion. These were o seen in Michel Angelo's figures, and they proved that tried to get as near as possible to nature. They all ew, of course, that he attained that quality—style—which ced a man above his fellows. There were two antago- stic influences in painting—one tended towards idealism, other towards realism. One tended towards the study of m through the study of a classic model, the other through sentiment of colour, which was known as the romantic ool. The work of Raphael was generally taken as a model the classic painters. Rembrandt was one of the most nantic artists, while Titian seemed to combine both the ssic and romantic schools. Such artists as Velasquez d Michel Angelo seemed to stand outside any qualifica- ns that could be made. Amongst modern painters Lord ighton would be included amongst the classicists, while atts belonged to both the classic and romantic schools. ch school had its beauty and each its danger. In some ys modern paintings suffered from those tendencies. ssing on to landscape-painting, Mr. Clausen thought it ght be classed on the romantic rather than on the classic side. Turner, the greatest landscape-painter of all time, for a long time revealed traces of the Dutch painters. That would be seen more particularly when the scheme of his colouring was considered. If they considered Rembrandt and Claude they would find that these artists looked at nature in opposite ways. In Rembrandt they saw nearly all "darks" joined together, but in Claude light was the dominant factor, and the "darks" became isolated. Turner's early work followed Rembrandt. Turner took a suggestion from nature and then developed it in his imagination, but Constable's works were all truth. In Constable great delight was experienced in seeing a thing as it generally was. It was Constable who caused the great development of painting in France during the middle of the last century. He took his pictures to the Salon, and some French artists who saw them made up their minds to work from nature, and not, as they hitherto had done, to practically copy from Claude. As a result they found Rousseau, Corot and indirectly Millet and others following Constable's example. Mr. Clausen then showed a number of pre-Raphaelite paintings, and pointed out their various features, which were chiefly minuteness of detail and perfect finish. The discipline studied by the pre-Raphaelites was an excellent example to students.

Mr. Clausen, in his fourth and final lecture, resumed his references to Constable's works, and pointed out how that artist endeavoured to get at the living and moving spirit of nature, and to express it in an ordinary way. He did not give an imaginary version of nature, as Turner did, but painted it as he saw it. His work was followed by the new French school, and one of the greatest artists of that class who drew his inspiration from Constable was Rousseau. In the latter's work was found the same quality of observation as was found in Constable. He did not idealise, but just gave nature as it was. The resemblance to Constable was found in his drawing of trees, with the same hard, minute definition of every bough and leaf. The man who made a stand, like Rousseau, must be prepared to pay the price. For years he worked steadily without hardly any recognition, and he was willing to do that in order to give what he considered to be the true view of nature. One of the next painters to adopt that plan was Corot. While Rousseau revealed a stern temperament, Corot painted delicately and in a manner that could hardly be defined. Both styles, however, were true. Corot desired to give the same effect, without any effort, as nature gave. His execution was of a dreamy kind, while his drawing was beautifully easy. The lecturer next referred to François Millet, who painted landscape and peasants in the open air. In the early painters the rustics were rarely painted except for ridicule. None of them appeared to have noticed the simple action of the rustics as being worthy of painting. The simple action seemed to be a great source of inspiration for Millet, but he had to fight hard for its acceptance. Mr. Clausen showed a number of the works of Millet, and pointed out their simple beauty and appropriate expression. In a sense Millet might be regarded as an impressionist. Whistler also might be regarded as an impressionist. Millet was an impressionist in his form and movement, but these did not interest Whistler so much as colour, light and the qualities of the atmosphere. He was the one artist since Turner who enlarged the artist's vision of nature. He did that, however, at the expense of other qualities; his drawing, for instance, was faulty. Mr. Clausen then passed on to Watts, of whom he might say that he was the greatest artist of their time. He was an artist with a mission; he was more concerned with the matter than with the manner of his production. His art had so little technical difficulty for him he could not help painting finely. In saying that he was the greatest artist of their time the lecturer did not mean to say that he was the greatest painter. The art of to-day was not in touch with the wider everyday occurrences, and had no definite relation to the things of the time. To artists what was called popular art had come to be synonymous with bad art. The public could appreciate good art if it were presented to them in a proper way, as was abundantly proved by Watts's career. He was so great an artist that he deliberately set aside the desire to please for its own sake. His belief was that art should be a means of expression, as contrasted with the doctrine of art for art's sake. The picture "The Slumber of Ages" was an instance of that. It would have been very easy for Watts to have painted the draperies in that picture very minutely, and to put more detail into the work, but that would have immediately destroyed the artistic beauty of the picture. There was one curious thing about Watts's career, and that was the fact that he was not influenced by the pre-Raphaelite movement. He was painting before that movement commenced and afterwards, but the only effect that could be noticed in his work was that the pictures he painted in the fifties showed a slightly clearer and harder method of drawing. Considering the effect the movement had on contemporaneous art, it was extraordinary how little he was affected. It was the mastery of appropriate gesture that differentiated Watts from the majority of other artists. He held that true expression was the principal thing, and his pictures never struck one as being made up of posed models. He would not hesitate to destroy a fine passage of painting if he felt that the expression was not right. In his picture, "Chaos," the influence of Michel Angelo was to be observed. He occasionally carried his passion for gesture and expression—if criticism might be presumed—to extremes. In his picture "Hope," for instance, the pose seemed impossible; yet at the same time he had succeeded in gaining the impression he meant to convey. He used colour as a musician used sound, reinforcing the design by the emotional qualities of colour. If it were possible to name one governing quality in Watts it was his consciousness of beauty in everything. In conclusion, the lecturer touched on the lessons taught by tradition. When the whole mass of art in the world was considered the precise manner in which any particular work was painted did not matter, so long as it realised the impression which the painter intended it to give. Each successive century of art was an education as to the different methods employed to give certain impressions. It was the mind of an artist that spoke in a work. The work which stood at the head was that which each succeeding generation felt did what it professed to do. The only lesson he could draw from the old masters was the old lesson of sincerity, that one should first get a worthy ideal, and then proceed to carry it out in a worthy way.

Mr. W. G. Brooke conveyed a hearty vote of thanks to the lecturer, and hoped that he would again visit Ireland.

Mr. Clausen thanked the audience for their kind sympathy, and he trusted his visit would not be the last one he would pay to Ireland.

Correspondence

The Association "At Home."

Sir,—May I crave a small space in your Journal to call the attention of readers who are members of the Architectural Association to the "At Home" which I am giving on the evening of December 8, at 8.30, at No. 18 Tufton Street, Westminster?

I am very desirous of welcoming as many members as possible who may not perhaps have seen our new premises, and who would like to take this opportunity of meeting old friends, and students, and members of to-day.

There will be an exhibition of holiday sketches and photographs, &c., and I hope the evening may result in the furtherance of that spirit of good-fellowship which it has been the aim of the Architectural Association to foster.—Yours faithfully, E. Guy Dawber, President.

18 Tufton Street, Westminster, S.W.:
November 21, 1905.

GENERAL.

Medals of the Society of Arts have been awarded to Mr. Thomas Graham Jackson, R.A., for his paper on "Street Architecture;" to Mr. F. Bligh Bond, F.R.I.B.A., for his paper on "West-Country Screens and Rood-Lofts;" and to Mr. Arthur Lee, J.P., for his paper on "The British Canals Problem," which were read in the Applied Art Section.

The Farnham Guardians have granted the request of a local school of art that an old man or an old woman from the workhouse might sit at the school as a model. Payment will be made.

Mr. H. J. W. Tillyard, B.A., student at the British School of Archæology at Athens, has been elected by the Cambridge University authorities to a research studentship of the value of 120*l.*

Mr. B. T. Batsford will shortly issue "Gothic Arcl tecture in England," by Mr. Francis Bond, M.A. This wo has been prepared on modern lines and possesses ma special features. It has 1,254 illustrations, largely frc original photographs, and consists of 800 pages imperial 8v

Abergwili Palace will shortly be ready for occupation the Bishop of St. Davids, after the works of restorati consequent on a fire last year. The work has been carri out in accordance with plans by Mr. W. D. Caröe, at a cc of about 13,000*l.* The external aspect of the place remai now as it was originally. Internally it has been replanne the chapel and the library alone retaining their form positions. An improvement has been effected by incorpor ting in the building as a top-lighted hall the open centr courtyard.

Mr. E. Reginald Frampton is carrying out a series fresco-paintings in Rushall Church, near Walsall. Tl walls dealt with comprise the north and south transepts ar the chancel arch. Each forms a distinct section, and is i tended to illustrate the office and work deputed to ange On the chancel arch wall are shown thirteen life-si figures of angels in attitudes of praise. The north transe will have the two archangels Michael and Gabriel standi by the Tree of Knowledge, above which are other angels attitudes of sorrow. In the south transept is shown th Tree of Life, by which stand the archangels Raphael ar Uriel. Above are angels singing.

The Late Mr. P. H. Rathbone has bequeathed some pain ings to the Walker Art Gallery, Liverpool, viz. the *Shulami Woman*, by Albert Moore; an early copy of the *Madonn with the Goldfinch*; a *Virgin and Child*, attributed to Ghi landaio; another by a master of the Dutch school; a seri of scenes from the life of John the Baptist; *Susannah ar the Elders.*

The Motor-car Commission on Wednesday examine Mr. A. Vernon and Mr. J. Willmot, representing the Su veyors' Institution; Mr. Robert Black, county surveyor Inverness; and Mr. James Perry, county surveyor Galway.

Pinnacles have been placed on the tower of Stoke-o Trent Church, which were designed by Messrs. Lynar Beckett & Lynam. The old pinnacles were in a dangerou condition.

Sir John Day has been elected vice-president of th Newbury Art Society in succession to the late Mr. Wate house, R.A.

Mr. C. Tozer, the engineer of the fire brigade, is no engaged in preparing a report on the lodging-houses Birmingham.

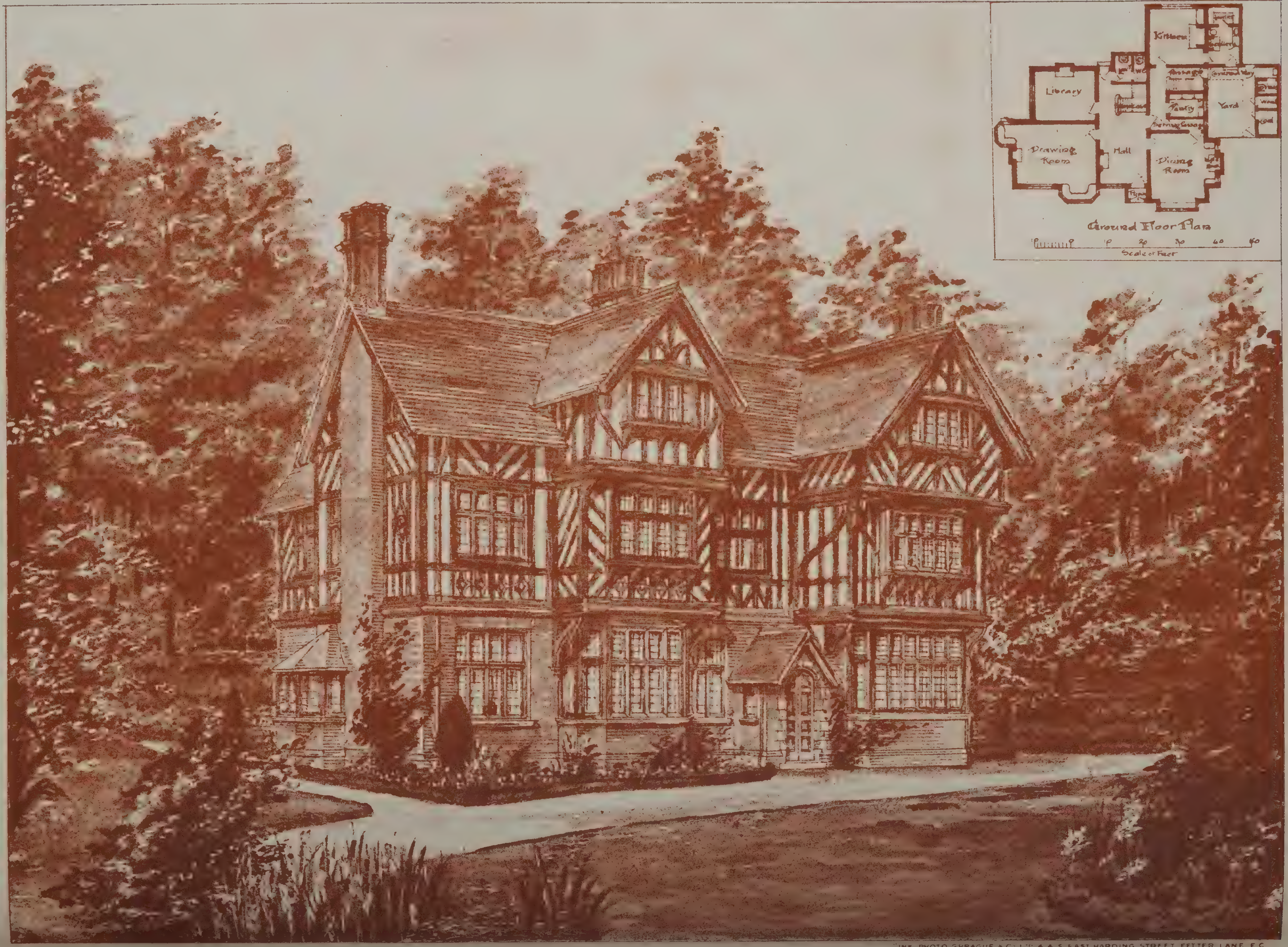
The Late Mr. Charles Perkins, of the Birtley Ironwork Durham, has left property valued at 489,480*l.* 2*s.* 9*d.*

Mr. P. C. Cowan, of the Local Government Board, rea a paper on road-making, in which he said the most fat errors in his opinion in connection with road-making we the use of stones of uneven sizes and the application mud to patches. What was wanted in all macadam road whether the steam roller was used or not, was that th stones should as quickly as possible become embedde in a kind of mosaic of uniform strength, with the lea possible mixture of soft materials, as, with or without stea rolling, stones with dimensions of more than $2\frac{1}{2}$ inche soon presented knobby projections above the average leve which were starting power of destructive wear and wast which increased in a compound interest way.

Mr. G. F. de Zoete has presented twenty-one painting of the English, Dutch and Italian schools to the Roy Museum, Canterbury.

The Brentford District Council has decided to widen th local High Street to a width of 30 feet, at a cost of 300,00 A Bill has been promoted by a private syndicate to wide the road to 60 feet, and this will be opposed by the Counc

The Glasgow Archæological Society in their annu report, in alluding to representations, in which the Counc had assisted, protesting against the scheme for the rebuil ing of the Royal Infirmary, regret to state that the directo were apparently determined to proceed with the erectio of the building. The Infirmary formed part of the o Archiepiscopal Palace of Glasgow, and was given as a fre gift by the Crown to the directors. It was matter for dee regret that the directors should proceed to take such actio as would, there was grave reason to apprehend, for all tim destroy the appearance of the cathedral, more especially they were advised that the reconstruction of the buildin might be so carried out as to avoid any such contingency.



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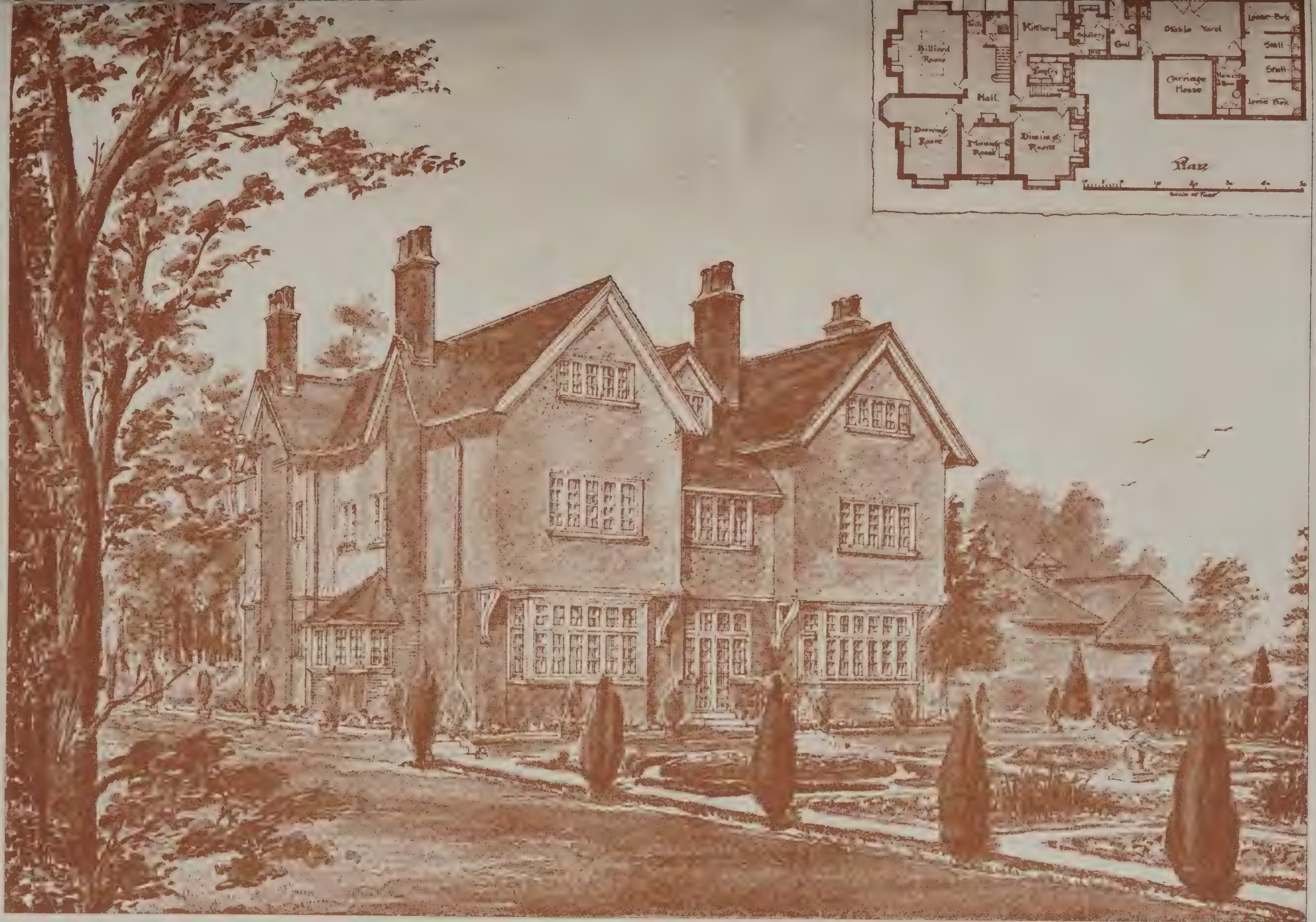
The Architect, Nov: 24th 1905



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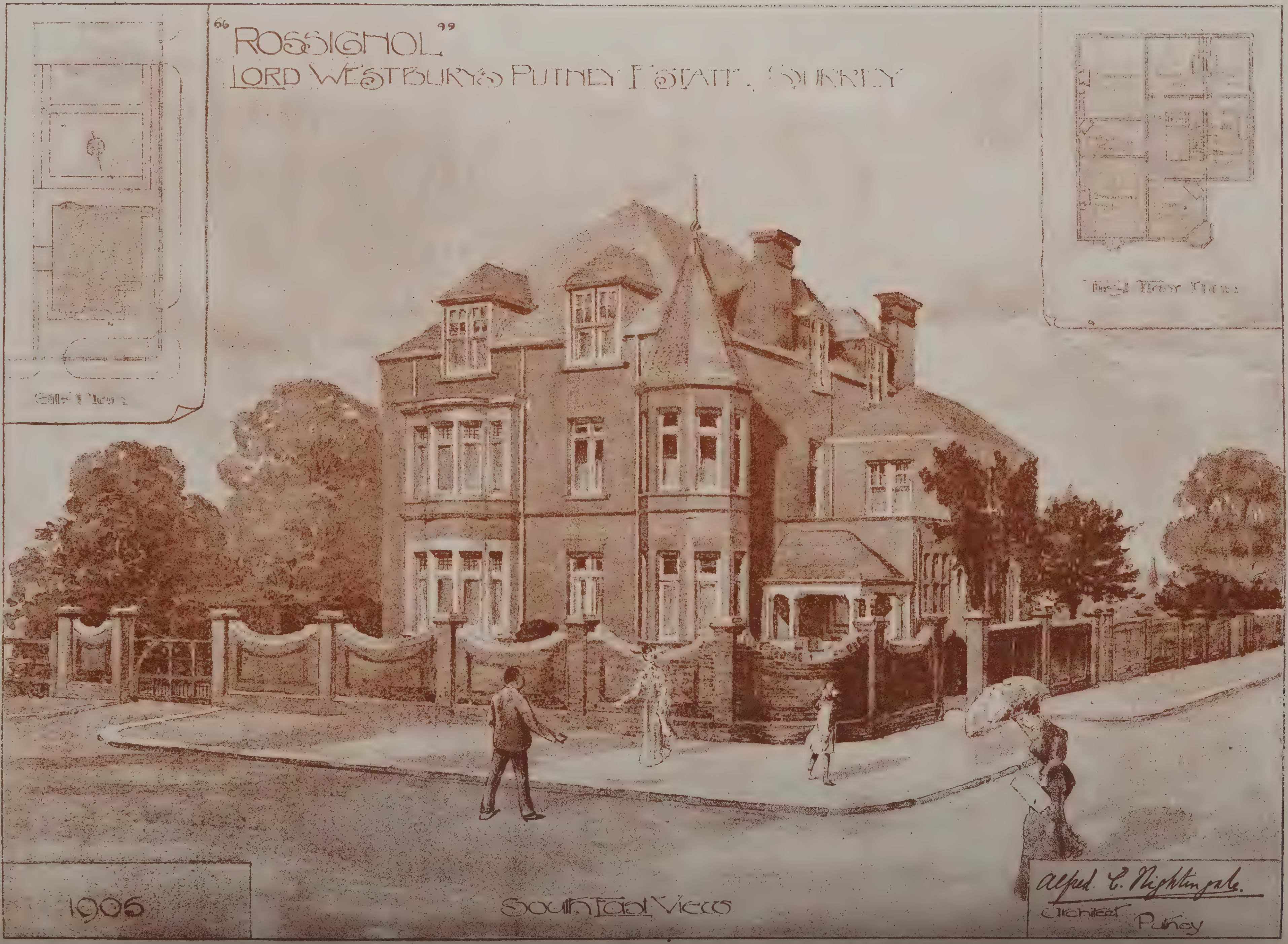
House at Biddenham, near Bedford.

Louis Ambler, F.R.I.B.A., Architect.

"ROSSIGNOL"
LORD WESTBURY'S PUTNEY ESTATE, SURREY



South East View

Alfred C. Nightingale.
Architect Putney

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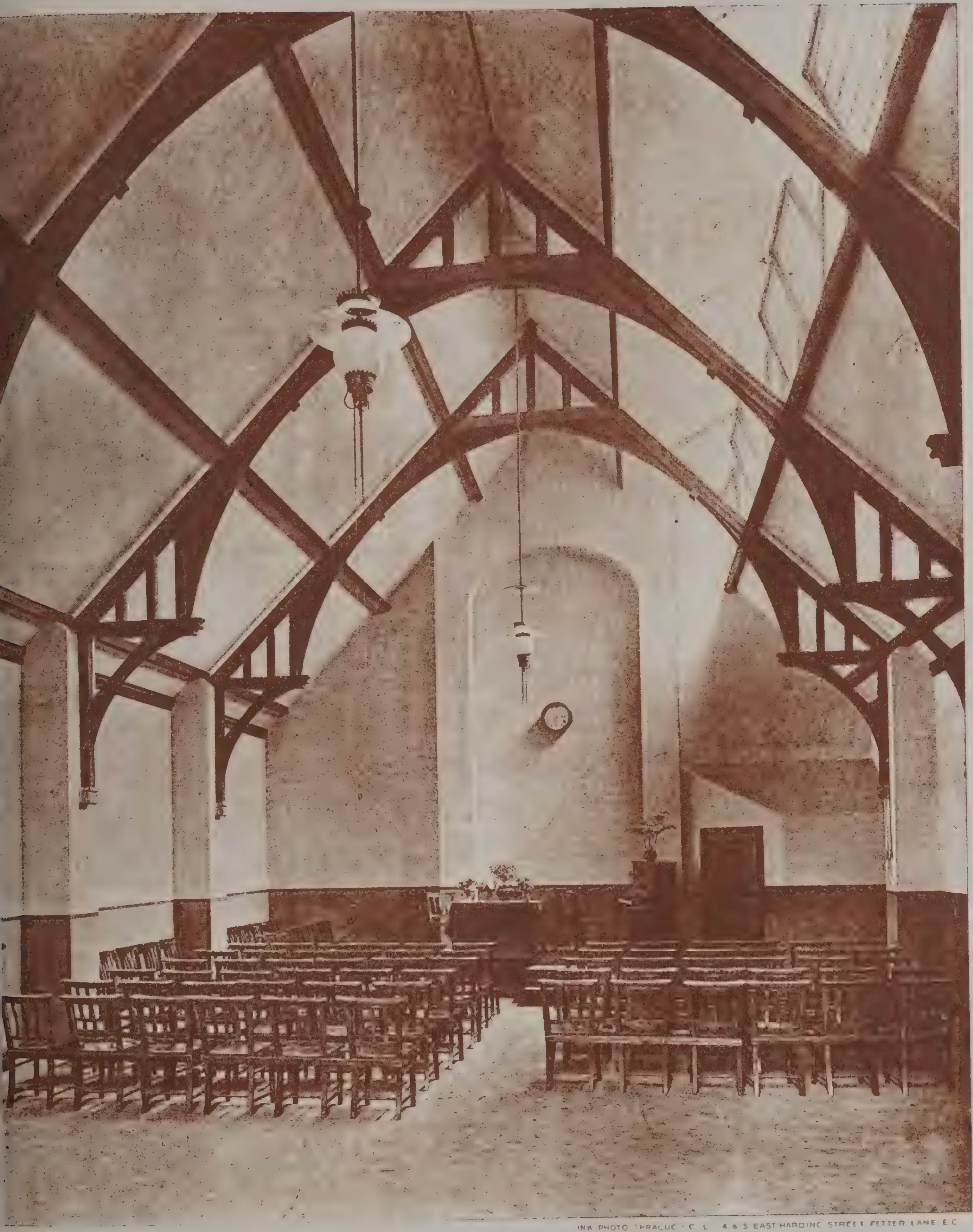

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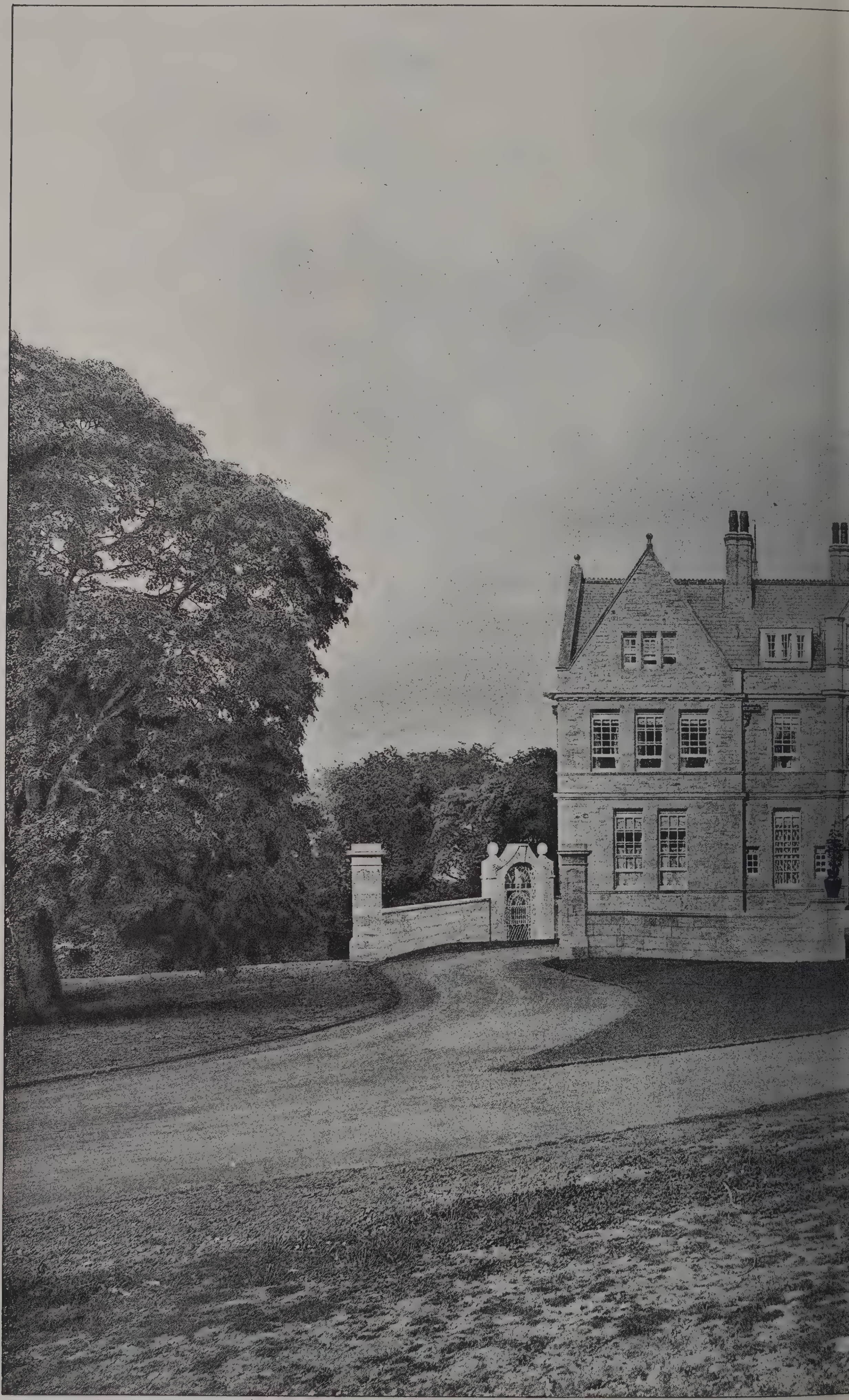
CHURCH ROOM, HOLY TRINITY PARISH CHURCH, KINGSWAY.

Messrs. HAYWARD & MAYNARD, Architects



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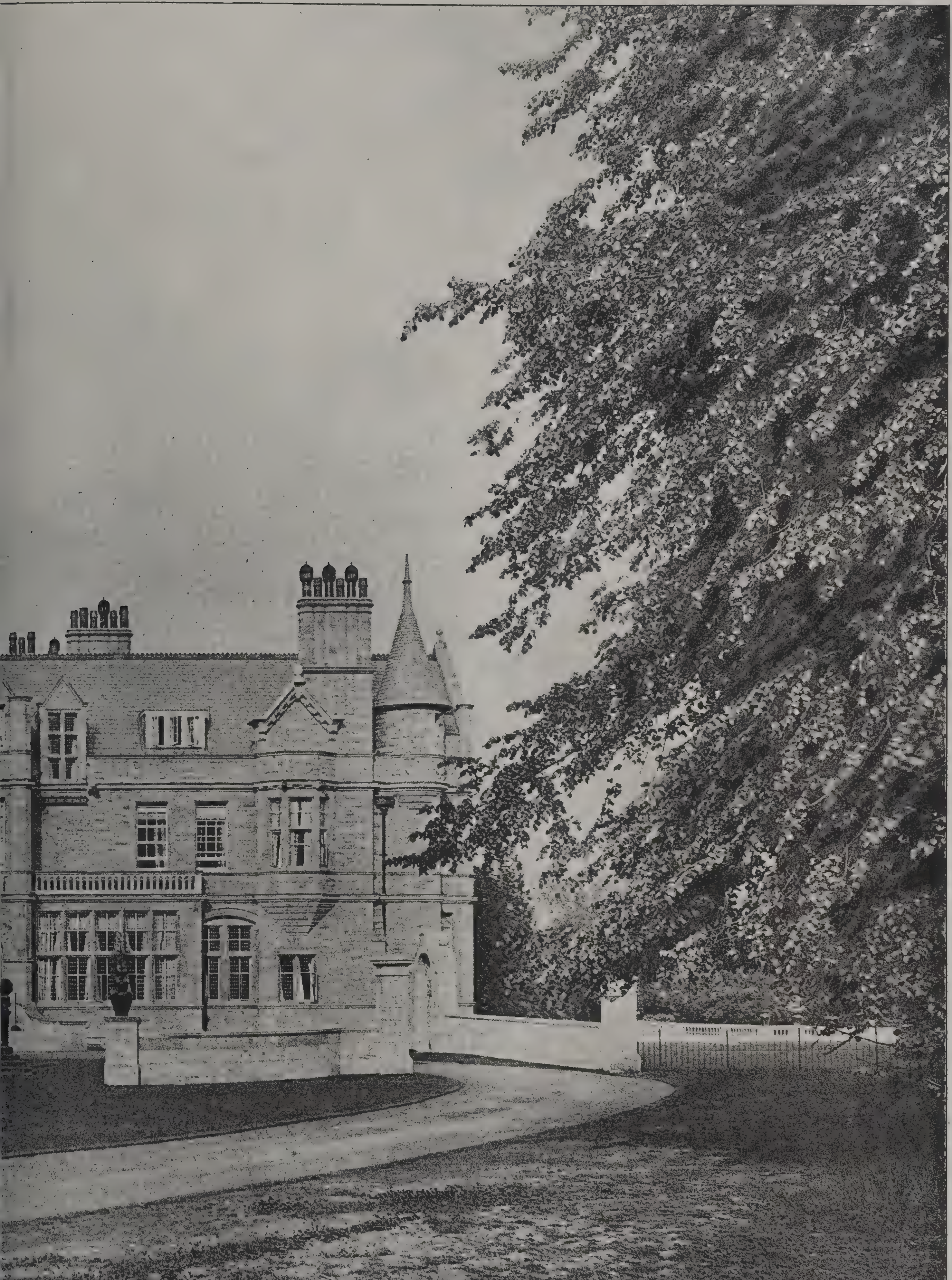
MOUNT MELVILLE, ST. A

The late ALFRED WA



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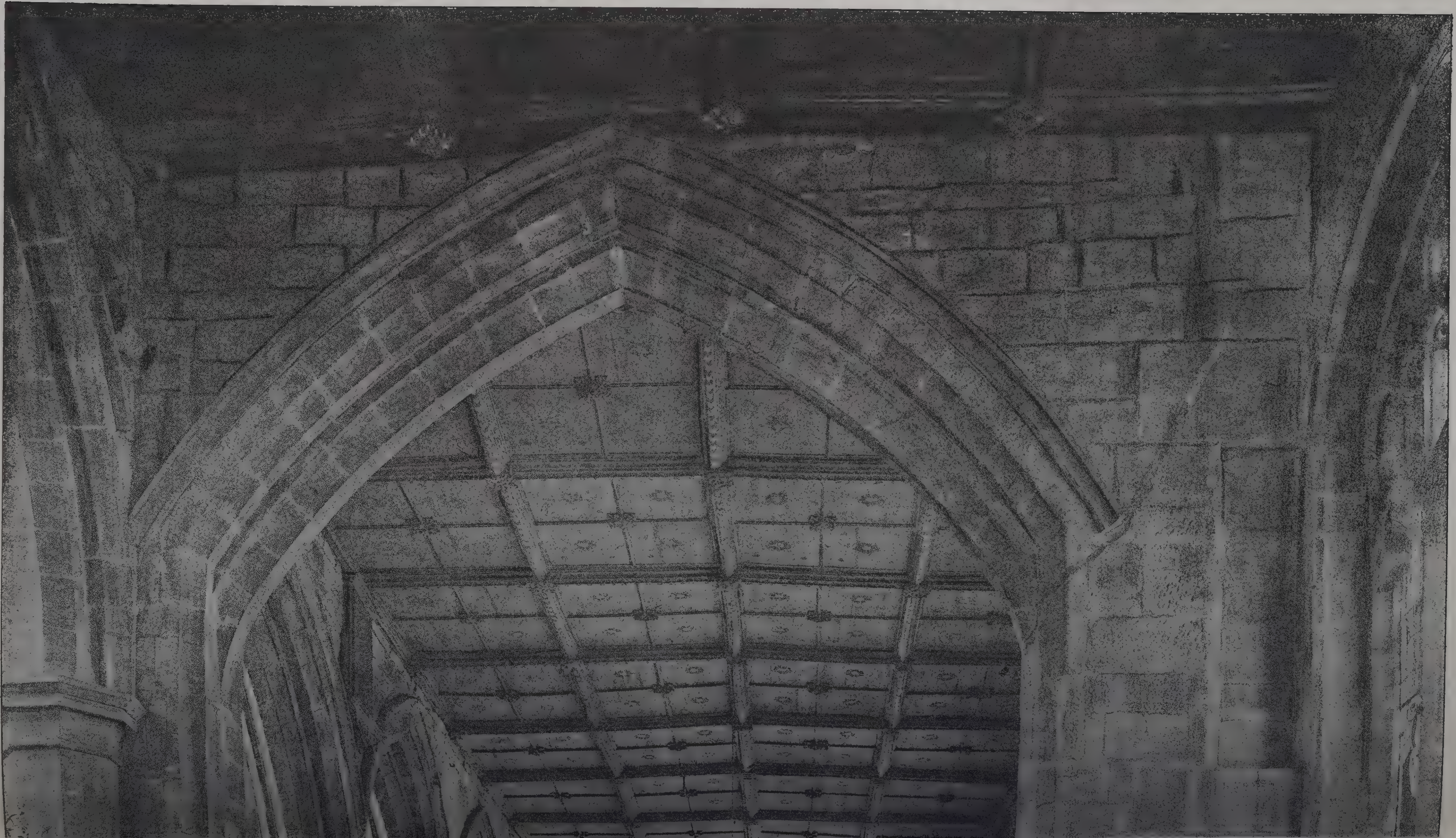
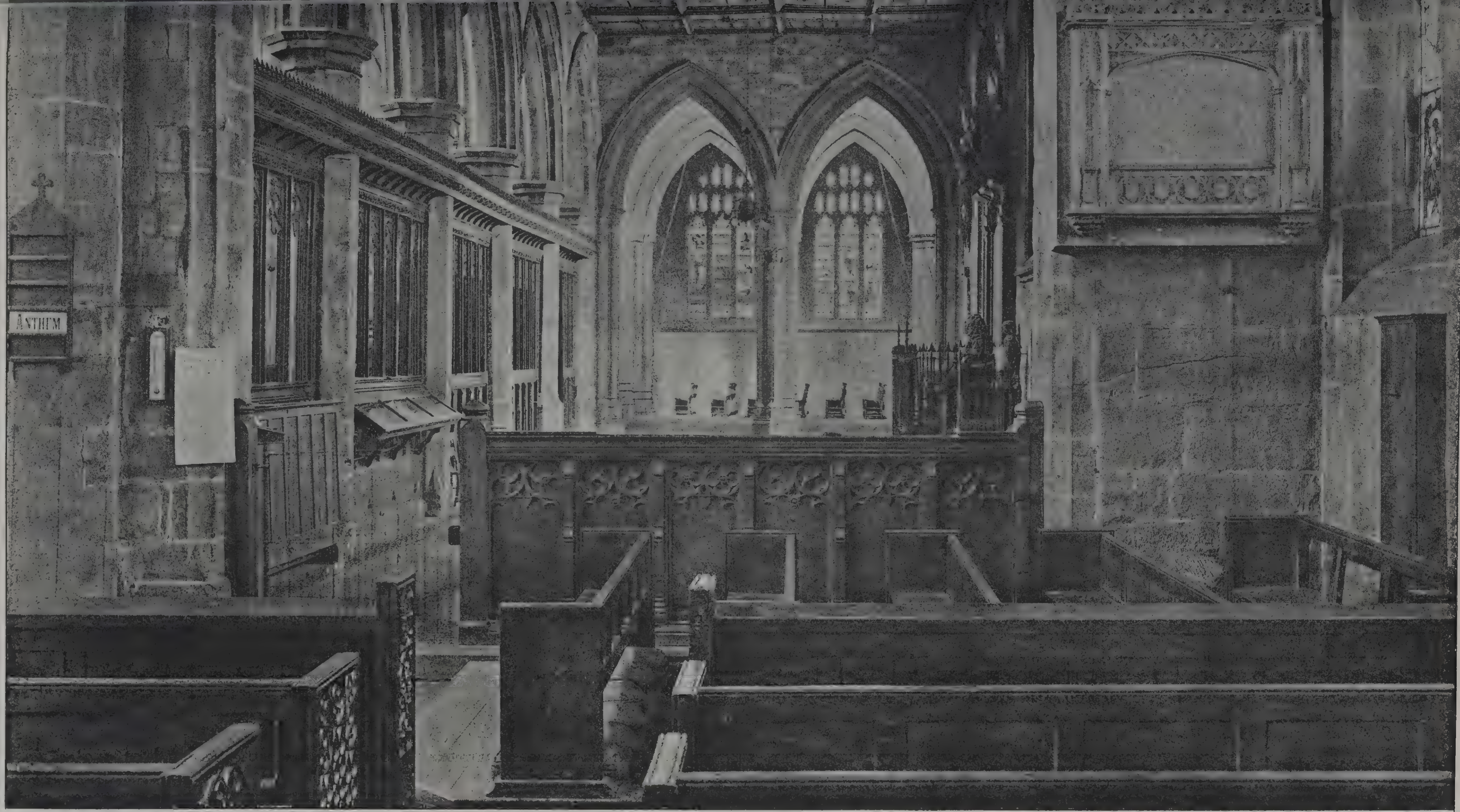
S, N.B.: WEST FRONT.

SE, R.A., Architect.





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Cathedral Series, No. 542.—Wakefield: Part of South Transept.

The Architect.

THE WEEK.

The decision which was given last week by Mr. Justice Channell in the case Glover and Others *v.* Birch, Kirby & Co., Ltd., has interest for others besides shipbuilders. It is usual when examining steel plates to cut off strips to be subjected to tests of various kinds. In the case of Glover *v.* Birch it was found that the strips before undergoing the tests were manipulated in such a way that they appeared to have greater tensile strength. The plates would therefore be of inferior quality to the samples, and great danger might arise. The manipulation took place on plates manufactured in Germany, and the case should serve as a warning to those who use foreign steel. Science unfortunately can lend itself to many kinds of adulteration, and the Germans, who were once so thoroughly honest, can find too many men who can aid and abet them in confounding right and wrong by making materials appear to have qualities which are not genuine. In the case in question the plates were examined by one of Lloyd's surveyors, who, we may be sure, followed an established custom. But it is evident that in dealing with foreigners, although they may be steel manufacturers on a great scale, it is essential that samples of products should not be allowed out of the examiner's possession until they are placed in the testing machine. It was contended that Lloyd's surveyor should have detected the imposition. Mr. Justice Channell said he was not satisfied that there was negligence on the surveyor's part. But he pointed out that for the future it might be different. In other words, foreign manufacturers are not to be trusted. Care will have to be taken that the whole of the steel to be purchased corresponds with the ample tested.

The death is announced of Mr. Alexander William Mills at the age of ninety-two. He was ong established in Manchester as a member of the firm f Mills & Murgatroyd. As far back as 1838 he won he first premium in the competition for an exchange in Manchester. When in 1866 a new building was to be rected, Messrs. Mills & Murgatroyd obtained the rst and second premiums in the competition, amountng to 500 guineas and 200 guineas. After such ictories it was inevitable that the practice of the firm hould be extensive. Mr. Mills was able to retire rom business in 1882. He lived in Bowdon. He was Justice of the Peace for the county of Chester.

The appointment of Dr. Wilhelm Bode as successor Dr. Richard Schönes in the direction of the Royal useum of Berlin was anticipated, and it gives general tisfaction. In Germany there is gradation among the gher classes of officers in museums as in colleges, and n incentive always exists for a beginner to aspire to e highest place. In this country there is less scope r ability, and the grumbling which is heard *à propos* of e *Venus* of Velasquez about the absence of a director the National Gallery testifies to the superiority of e German system. If such a collection of pictures we have in the National Gallery were to be und in one of the German cities it would give cupation to a large staff of German officials who, a very small remuneration, would spend their ars in making out histories of the paintings, d in discovering connections between them and nilar or diverse works. Dr. Bode has been connected h the Department of Museums in Berlin for over rty years. When he entered the service he was in twenty-fifth year, and had gone through a training a lawyer. At first from his writings it might be supposed that he intended to devote himself to the history of the Dutch School of Painting. But he had afterwards to take up other schools of art, and latterly he was supposed to be omniscient about Christian sculpture. His handbook to that division of art is a marvel for the extent of the information which is imparted through the pages and engravings. Dr. Bode has long proved his competence for the highest post obtainable, and under his direction the wonderful museums are likely to become still more a subject for envy than they are at present.

Mannheim has long been known for its interest in music and the drama. It was there Schiller's first drama, "The Robbers," was performed, and to the city Schiller fled in the hope of obtaining an appointment as dramatic poet. Trade flourishes in Mannheim, and the people now wish to gain a reputation in the other fine arts. Recently a lady left a legacy of 250,000 marks towards the erection of a building in which exhibitions of paintings and drawings can be held. A design by Professor Hermann Billing has been selected, and it is anticipated that in the spring of 1907 the galleries will be open for an international exhibition. The building will cost 600,000 marks, but the State is prepared to contribute the 350,000 marks which will be needed with the legacy.

The summoning and fining of people who without having the privilege have their arms represented on hall chairs, rings, plate, stationery, &c., has not done much to promote an interest in heraldry. Perhaps the new arrangement of the education committee of the London County Council may be more successful. It is intended to have two courses of four lectures on heraldic design at the Camberwell School of Arts and Crafts and the Central School of Arts and Crafts. Mr. G. W. Eve, a writer on the subject, has agreed to deliver the eight lectures for a fee of 22 guineas. When it is remembered that there are not many men who are competent to treat the subject in a proper manner the outlay is not excessive, and will not impose any perceptible burden on the ratepayers. A knowledge of heraldry is advantageous to embroiderers, carvers and others. If competent assistants were obtainable heraldry could be more often employed in the decoration of houses and other buildings. Mr. Eve, we may mention, is to deliver a course of Cantor lectures on "Heraldry in Relation to the Applied Arts" before the Society of Arts.

A new form of memorial is about to be tried in Worms. That ancient city was the scene of some of the incidents described in the German epic, the Nibelungen-Lied. Etzel, whom Krimhilda married in order, through his aid, to avenge the murder of her husband Siegfried, was Attila who destroyed Worms. It is now desired to recall Krimhilda by a wonderful garden which is to be known as Krimhilden's Rosengarten. In order that it may be worthy of the city as well as of the ancient tragedy, it has been decided to obtain designs through a competition. They are to be sent in not later than the first day of next February. The prizes are not on an heroic scale like the characters in the poem; their value is 500, 250 and 125 marks. It is to be hoped the new Krimhilden's Garden will not be the cause of as much woe as was that described in the Heldenbuch. It will certainly not be so large. The boundary of that fateful garden must have measured seven or eight miles, yet the princess considered that although surrounded by a silk thread it could not be entered. It was defended by Siegfried and other knights. Dietrich of Berne accepted the challenge for himself and eleven Lombards. The strangers were successful, and the king had to do homage to Dietrich not only for the garden but for his whole kingdom.

THE PANAMA CANAL.

THE littleness of man has been a favourite topic for moralists. One result has been that men often try to prove they are giants. The rulers of Egypt could not have believed that their spirit was to be measured by the size of their bodies. They secured an architecture which was adapted for giants rather than for ordinary individuals. Works of that class might be considered as evidence of an unbounded egotism. In looking at them we are compelled to think of the kings in whose reigns the colossal structures were produced. The Suez Canal and the modern irrigation works in Egypt exceed in dimensions the temples and pyramids. But it is to be feared that in a century or two the names of the men who projected them will not be as familiar to the people then living as those of the PHARAOHS. Yet owing to the dominance of modern ideas it is now regretted that ROBERT STEPHENSON did not approve of the plans of DE LESSEPS, and that the contract for the construction of the Suez Canal was not carried out by an English firm.

The success of the Egyptian canal inspired DE LESSEPS with a desire to have another cut through the Isthmus of Panama. In 1855 a railway was constructed across the isthmus. But, however useful, it could not serve for bringing ships from the Atlantic to the Pacific and *vice versâ*. Several projects for canals were brought forward. But the Government of New Granada was too poor to undertake such costly works, and formed an obstacle to the intervention of any other nation. Lieutenant WISE, a French officer, contrived to obtain a concession which has been utilised. To get over the difficulty of a foreign invasion an international congress was convened by DE LESSEPS in 1879. Then he promoted a company to construct a canal and to purchase WISE's concession.

Having the Suez Canal as a model, with a bottom of 72 feet and depth of 26 feet, it was proposed to make the Panama Canal with a depth of 27 feet 10 inches and a bottom width of 72 feet. In rock, the bottom width was to be 78 feet 9 inches, and the depth 29 feet 6 inches. The cost was estimated by DE LESSEPS at 658,000,000 francs. There was great difficulty in disposing of the shares, and it was not until 1882 that the work was commenced at both extremities of the line laid out for the canal.

It was not long before it was discovered that the quantity of the excavation, as well as the cost, had been underestimated. The financial difficulties increased, and the shares were not taken up, though offered at a discount. After five years the funds became exhausted, and the operations had to be suspended. About a fifth of the excavation had been completed. Schemes were suggested for diminishing the quantity of excavation by adopting a system of locks, but speculators were alarmed and money was not forthcoming. The House of Lords sometimes grants an extension of the time for carrying out works stipulated in private Acts. The Colombian Government, acting in the same spirit, allowed various prolongations of the time in which the works were to be completed. There was, however, one great difference, for the Colombian Government insisted on the payment of a large sum for the alteration of the concession. A new company was formed to take over all the rights and property of the preceding one. There was more information available, and the works were resumed on a more practical basis. After changes were made on the score of economy, including the system of locks, it was estimated that the works requiring to be executed would call for an outlay of over 500,000,000 francs.

It is well known that the Americans at length undertook the completion of the Canal at the instance of Mr. ROOSEVELT. As yet it has not become a State undertaking, and it is well to remember that a commission appointed in 1899 preferred the Nicaraguan Canal to the Panama route. It cannot yet be said to what extent the original scheme will be modified. Mr. STEVENS, the chief engineer, has prepared three different sets of plans. But preparations have been made for taking up the work efficiently and completing it expeditiously. An address by Mr. T. P. SHONTS, one of the officials, enables us to realise the greatness of the work of preparation.

In the first place it was necessary to provide for the sanitation of the isthmus. The French would not be so fond of war if they did not hold human life very cheap. The death-rate at Panama did not daunt them. But efficient navvies have a value, and Americans admit the fact. Never has Panama during all the past centuries had such a cleaning as it lately received. The water might be described as a solution of mosquitoes. Now a water-supply has been arranged from a mountain source. Sewers have been introduced, and the streets are to be paved. That the sanitary operations are extensive is evident when it is found that 4,100 men are engaged on them. From such statistics as can be obtained, it is obvious that the isthmus is no longer a plague spot, for the death-rate, which was 112 per thousand under a French *régime*, is now reduced almost to zero.

The French had left 2,100 buildings for workmen, but they were all in bad condition. It appears 2,400 men are now employed in providing additional quarters. The question of food supplies was enough to daunt an army commissariat. Arrangements have to be made for feeding 12,000 men, with the base of supplies at a distance of 2,000 miles. At present the supplies are adequate, and are sold to the men at low rates. The Panama railway has been overhauled and the requested appliances for large traffic provided.

To expedite the excavations machinery will be necessary, and materials for roads, bridges and stations must be forthcoming. The first list of the purchases will give a notion of the future operations. At a cost of about 9,000,000 dols. the following were obtained:—Sixty-one steam shovels, 1,300 flat cars, 12 rapid unloaders, 22 unloading ploughs, 13 earth spreaders, 324 dump cars, 12 hoisting engines, 120 locomotives, 5,000 tons of steel rails, 125,000 cross ties, 12,000 pieces of piling, 14 air-compressing machines, 3 cranes, 152 rock drills, 30,000,000 feet lumber (approximately), 2 dipper dredges, 646,000 lbs. blasting powder, 617,000 lbs. dynamite, 7,000,000 paving bricks, 3,500,000 building bricks, 500,000 square feet roofing tiles, 36,000 bushels cement (approximately), 3 steel water-tanks and towers, 12 stand pipes, 2 ocean steamships. The purchases enumerated are exclusive of those which are needed for the Panama railway.

It has to be admitted that the labour available is at present far from being efficient. The product is not more than a fourth of what would be obtained from the same number of men in the United States. There is no doubt that the French estimates were frustrated by the labourers. Insignificant as may be the results, the men are paid at the rate of 80 and 90 cents a day. It is evident, therefore, that in spite of the go-aheadness of Americans, the completion of the Canal will be both costly and harassing. As the President has taken the enterprise under his auspices it will not uphold American reputation for courage and constructive power if the Canal should be treated as an ordinary speculation. The national reputation is concerned in the success of the Panama Canal, and it will not answer if the modern Americans allow themselves to be surpassed in colossal works by the ancient inhabitants of Egypt or South America.

ENGLISH GOTHIC.*

IN 1812 there appeared in a Liverpool publication called *Smith's Panorama of Science and Art* a dissertation of which a few copies were printed separately, with the original pagination of the magazine. In less than sixty pages not only English or Gothic architecture but Grecian and Roman also were treated. Two copperplates and a woodcut of a square-headed Perpendicular doorway, which served as a cover for the magazine, were all the illustrations. The reader who wished for views was referred to "The Cathedrals," &c., published by the Society of Antiquaries, Carter's "Ancient Architecture," Britton's "Architectural Antiquities," &c. In that form Thomas Rickman's well-known work first became available to students of English architecture, and after ninety years it still serves as an epitome of the characteristics of English Mediæval buildings. It was not the earliest effort to explain the peculiarities of English Gothic; but it was recognised as the first on an analytical plan, and many men who treated of the same subject have testified to its value.

It is well to compare the excerpt from the Liverpool publication with the large and attractive volume by Mr. Francis Bond which has just appeared. The contrast between the two suggests how much has been done in the course of ninety years to reveal the characteristics of English Gothic. Instead of Rickman's three modest plates, one of which was devoted to a Tuscan column and mouldings and another was a reprint of a book cover, we have 1,254 illustrations, and instead of less than sixty pages, there are 782. Yet it cannot be said that, in spite of its size, the subject is exhausted in the later volume. Most architects have their favourite churches, and some of those may be absent from the pages. There are omissions which will be evident to all who glance at the illustrations. Wells Cathedral has gained much of its renown by the sculpture of the west ront. But there is no view of that part of the buildng. All that relates to Worcester Cathedral is a plan of the crypt. No part of Manchester Cathedral is hown. The numerous illustrations we have been giving of Wakefield Cathedral are enough to prove that t was one of the most satisfactory parish churches in England. All that Mr. Bond says about it is that it was among those churches in which the aisles were pulled down and rebuilt on a larger scale. There is ome excuse for the omission of any notice of St. Asaph's, for it is almost a re-creation. But in Bangor Cathedral much has great interest. The building is mentioned in one of the indexes, but we can see no word about it in the text.

We are not referring to such omissions as faults. n considering them we should take into account the haracter of the book. It is described as "an analysis" f English church architecture, and we have no right to dge it as if it were a topographical dictionary. The uthor speaks of his enjoyment of visiting the churches ith his camera in hand. On such occasions parts of uildings are usually considered as best adapted for hotography. Many of the details obtained in that way ill by their novelty surprise architects who have given tention to church architecture. We may say that r. Bond's book bears more relation to the old Glossary of Architecture" than to any of the histories treatises which have appeared. But instead of short scriptions, every subject introduced is treated at dequate length and with a due regard to all its mifications.

The analysis forms, however, only the second part the volume. In the first portion the generalities English Gothic are described. Mr. Bond treats all e churches from 1050 to 1200 as Romanesque. He remarks that "they were not only exceedingly numerous but very many were amazing in scale, far surpassing the very largest churches of their mother country, Normandy. So large, indeed, that even in Gothic days nothing was set out on so vast a scale." It may not, for instance, be known to all that Bath Abbey Church occupies the site of the nave of a Norman church. Six types of church plans are mentioned, and the problem of roofing is dealt with.

Romanesque is a term which found favour with Dr. Whewell, not on account of its definiteness, but because it was less open to objection than any other, and because it nearly corresponded with the word *romane* which Frenchmen used. Mr. Bond is not in favour of that kind of nomenclature, for he considers that the adoption of periods by Rickman was not advantageous for the study of the style, for Norman, Early English, Decorated and Perpendicular form a classification which is mischievous as well as baseless. He prefers to take time as the indication of style. The different chapters relate to work which was produced from about 1170 to 1315, from 1300 to 1350 and from 1330 to 1538. According to Mr. Pater, the gods of each Greek mythology overlap each other, and are confused or connected with each other, lightly or deeply, as the case may be. Almost the same words might be used of the divisions of English Gothic which Mr. Bond adopts. They are similar, and there is nothing to indicate any peculiarity as supreme, but they are not so well adapted as even "First Pointed" and "Second Pointed" for general use. Rickman described the characteristics of each period under the heads of doors, windows, arches, piers, buttresses, tablets, niches, ornaments and steeples. Mr. Bond's divisions are suited to his ample treatment, for the works of the various centuries are described under the headings of planning, internal elevation, east front, west front, vaulting, piers, ornament. As an example of the method of presenting characteristics, we shall quote what is said about the "tooth ornament," which, whether derived from a nail-head or from a flower, was at one time a favourite form with carvers:—

> The tooth ornament had enormous vogue in the thirteenth century, *e.g.* at Skelton and Warmington; partly because of its effectiveness, partly because it was easy to execute. It had its origin in the Norman nail-head. It is one of the few ornaments without a classical pedigree. An early example of it occurs in the labels of the aisle windows of the west front of Rochester, which is probably 1125 to 1137. It occurs, fully developed, 1131-3, at Terouanne, in the north of France. It occurs in the west doorway of Lessay abbey and of Davington priory—the latter was founded in 1153—also in the so-called baptistery at Canterbury, c. 1160; in doorways at Stillingfleet and Brinkburn, and in the sanctuary arch of Compton and among Norman mouldings in the north doorway of St. Margaret at Cliffe. It occurs as a string at the back of the pier arches of Steyning. It is used profusely at Canterbury in the work of 1175-84. It is very rare after the thirteenth century, but an example occurs in the mouldings of a Tudor arch at Lichfield, and an imitation of it in another at Congresbury vicarage. It was common in continental Gothic also, in Italy at Perugia, Terni and Verona, and is very common in Spanish Romanesque, *e.g.* in Tarrogana cloister. It is still a favourite in Cyprus. Usually this ornament is designed as a pyramid of four leaves, but at Salisbury it consists of only two leaves, *i.e.* a half-pyramid; the treatment at Binham and West Walton is similar. In late and rich work scrolls of foliage are carved on each face of the pyramid, *e.g.* the north doorway of Lichfield and west front of Dunstable.

We have not seen in any earlier notice of the ornament so many references to its application. This is a specified quality of Mr. Bond's book, for the author seems to have so comprehensive a vision that he is able to see at once all the instances which are necessary for his treatment of any point. In the fulness of reference to examples the book resembles a treatise on a legal subject by an experienced lawyer.

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* *Gothic Architecture in England.* An Analysis of the gin and Development of English Church Architecture from the rman Conquest to the Dissolution of the Monasteries. By ncis Bond, M.A. (London: B. T. Batsford.)

If we call the first part of Mr. Bond's volume synthetical, the second and more important part is analytical. In it we have the planning and construction of the different parts of the cathedrals and churches explained with great care in thirty-five chapters. Planning occupies a large space. The ritual of the early Christians could be well carried out not only in a square or rectangular building, but in a round one. The desire to make a distinction between different classes of worshippers and to find positions which would suggest dignity for the clerics, with other causes, led to deviations from simplicity. In the Roman church to-day several forms of plan are allowable. English clergymen like Willis and Whewell, in describing buildings, gave little attention to the planning. They may have associated it with doctrinal weakness. In England there appears to have been more intricacy in the plans of churches than was allowed on the Continent, for individual rights were tolerated in respect of the erection of private chapels and chantries. The result is explained by Mr. Bond. He considers that at one time there was a tendency in England to revert to the original simple planning by removing the aisles and allowing the church to consist of a nave and chancel. He says that "had this type come into general use we should have had the logical outcome of that desire for simple and straightforward planning which was ever at the heart of the English builder, whether he was building for monk or canon, for townsman or for villager."

The plan having been arranged, the next question was how to enclose it. There was a limit to the extent of the space over which a roof could extend, and if divisions were not necessary for ritual purposes they became indispensable in construction. The progress in the science of providing the means for supporting arches and roofs becomes the most interesting of all parts of the practice of Gothic architects. There have been some admirers of the style favoured in England who considered that with timber roofs it was possible to have greater variety in arranging the points of support and in the outline of a building than when the roof was to be vaulted in stone. But if England, at length, imitated the French in the preference for stone, there is no doubt the change led to higher constructive skill. Indeed, Mr. Bond claims pre-eminence for England in that class of work. He says in a note—and the notes seem to express his latest discoveries or conclusions:—"Truly, if vault construction is the be-all and end of Gothic architecture, it is not with any foreign country but with England that the artistic supremacy in Mediæval architecture rests. From first to last—in the vaults of Durham nave, of Lincoln, of Exeter, of the choir of Oxford Cathedral, of Henry VII.'s Chapel at Westminster—we were the envy of less happier lands; we English are too modest in claiming our artistic dues." Mr. Bond also follows Professor Willis in maintaining the principle of the vaulting shaft, which appears so illogical to foreign critics.

The buttress became a necessity in the efforts of the Gothic architects to obtain lightness, economy and effect. It was evidence that they had theories of construction although they were unable to express them algebraically. The flying buttress was the development; indeed Whewell, looking on the subject as became a professor of mechanics, does not hesitate to say that the inventor of it did far more for architecture than the inventor of the pointed arch. But during several years there was hesitation among English builders about the adoption of the principle, and it is doubtful whether we can show as daring experiments with the flying buttress as are seen in France.

Windows are another interesting subject, in which there was marvellous progression. In some parts of the country there is a belief the word means wind door, and there is no doubt shutters or doors were used when glass was not obtainable and afterwards for the protection of glass. The connection between the two was likely to be perceived by Rickman when he said that the "proportions of the Norman windows were generally those of a door." More perhaps than in any other part of a building is the effort to advance displayed in windows. But after all his success the mason had to become subservient to the glass-painter, and the end walls of churches appeared to be made of glass, although not to the same extent as the enclosures of shops in modern towns. In the adaptation of tracery to the new conditions there was not general enthusiasm throughout England, and Mr. Bond describes one interesting class suggesting difference of opinion which he calls "belated curvilinear" windows:—

> It is usually assumed that c. 1360 all the world unanimously set to work to produce rectilinear window tracery. This was certainly not so. In some districts, especially in those far distant from Gloucester, flowing tracery held its own to the end of the fourteenth and probably well into the fifteenth century. Not everybody was willing to sacrifice the exquisite curves of flowing tracery for the glassman's gridiron. This was especially the case in Norfolk and Suffolk, which at that time were hardly an integral part of England, but severed from the mainland by rivers and fens more completely than Ireland is now from England. East Anglia was an island, with insular and independent architectural traditions. There fourteenth-century grace found its last refuge. Thus at Ely, Bishop Barnet, 1367 to 1373, made three windows on the south side and two on the north side of the presbytery, and these are of flowing design. So in Wimmington, Bedford, the brass of the founder gives 1391 as the date of his death, but "the details are remarkably pure curvilinear."

It would be difficult to determine the origin of towers in churches. De Caumont quotes a statement that in 770 a tower or belfry was erected at St. Peter's at Rome, in which three bells were hung to call the faithful to the services. That was supposed to introduce, if not to sanction, those structures. Bells were, it appears, used in Gaul from the fifth century. But there was no special building for them. Mr. Bond quotes statements to the effect that churches with western towers were seen in the fifth century. There is a well-known passage of Wordsworth in which he speaks of spires as a silent finger pointing to Heaven, and in his note on it he says:—"An instinctive taste teaches men to build their churches in flat countries with spire-steeples, which, as they cannot be referred to any other object, point as with silent finger to the sky and stars, and sometimes, when they reflect the brazen light of a rich though rainy sunset, appear like a pyramid of flame burning Heavenward." According to the Rev. E. A. Poole, a tower like that of Boston, Gloucester or Coventry more entirely satisfies the eye and more sensibly elevates the mind than any other part of a Gothic church. It is pointed out by Mr. Bond that for the central towers especially a heavy price had to be paid because the weight of them was found to be insupportable. Some, as he says, tore away from nave, transept and choir; some collapsed soon after they were built, and to lighten others the wooden spires had to be removed. If use could be found for the tower, the spire can only be considered as an ornament, unless we regard it with the poet as "a bright ladder to the world above." There is, however, a desire to bring things to a conclusion; and if the Greek pediment is to be treated as something more than a facing to a roof, the spire may be taken as the consummation of the pointed treatment which is seen in doors and arches. According to Mr. Bond, there are three chief types of English spires. "The first is the timber type, whether executed in wood or in stone; the second is the broach spire. Both are without pathway and parapet; both occur mainly in the thirteenth and fourteenth centuries. The third is the parapeted spire without pinnacles, or with pinnacles and with or without flying buttresses. It is the parapeted spires that are most characteristic of the later Gothic of England."

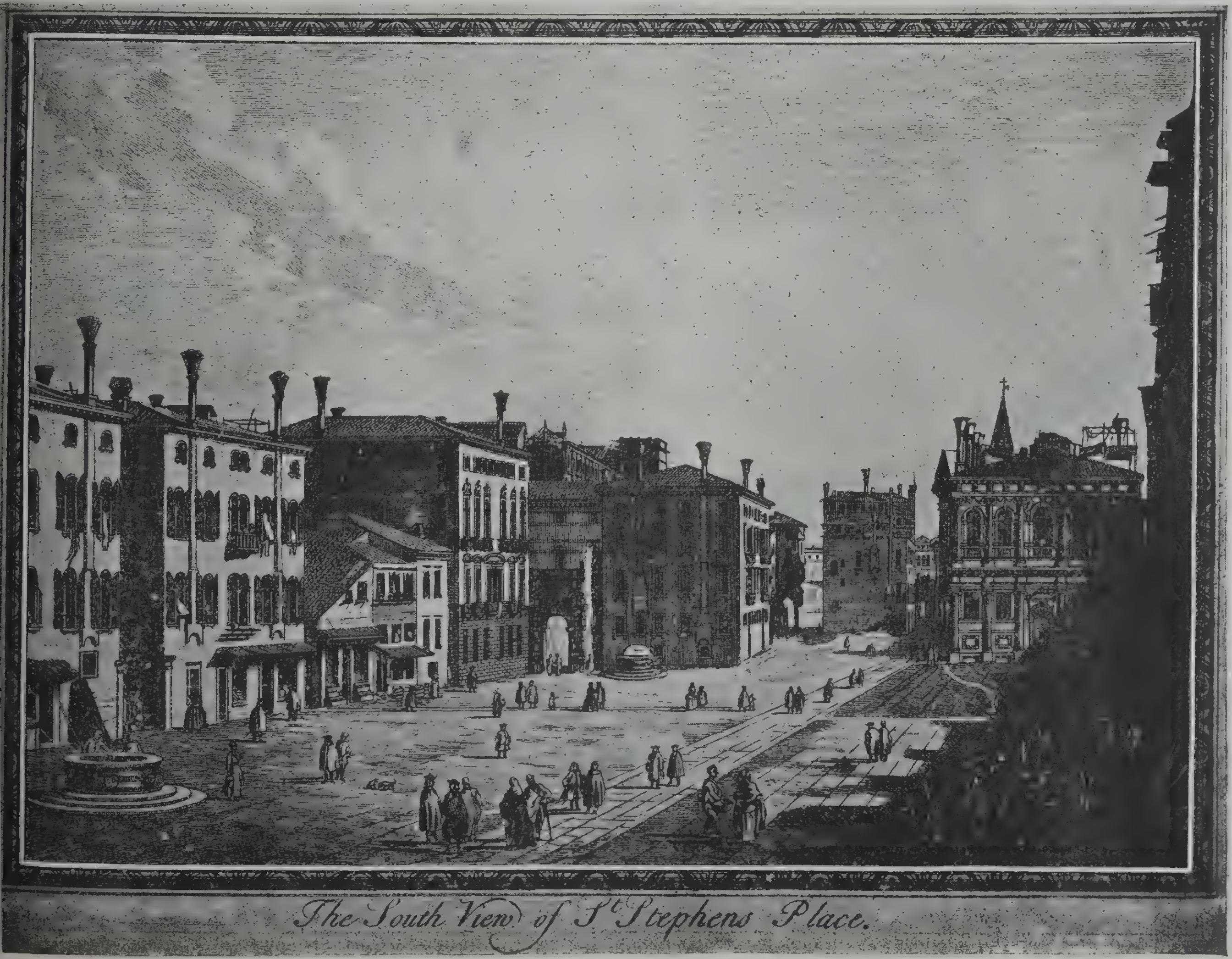
There is a chapter on the chronology of English churches and a collection of sections of mouldings from the middle of the twelfth to the middle of the sixteenth century, which have the advantage of being clearly drawn and on an uniform scale. Several indexes are introduced, and in spite of its size reference to all parts becomes easy.

Mr. Bond's work has a thoroughness which is more often found in German than in English treatises. It would be difficult to estimate the time which was spent in the pleasant task of visiting and photographing the churches and in reading the numerous books and essays. The volume may be described as embodying not only exact representations of the details of Gothic buildings in England which possess interesting qualities, but the spirit of what was said by authorities on the subject. Gothic architecture has been presented to the public view in its pages with a completeness which has not been approached by preceding writers, excellent as may be their works. For here we have an unexampled number of illustrations, and the conclusions not only of one, but of several students.

CANALETTO'S VIEWS OF VENICE.—XVIII.

THE Campo of St. Stephen is one of the largest in Venice, and it is easily reached. It may be considered to be in direct communication with the Academy by means of the modern iron bridge. It was one of the parts of the city which Turner represented. The church of St. Stephen was erected in the fourteenth century, and is not unsuccessful as an example of Gothic. The monastery contains frescoes by Pordenone.

Although Canaletto in representing the open spaces of Venice was disposed, as in the case of the Campo of St. Stephen, to accord most prominence to palaces and houses, it would be considered an act of treason if he sacrificed the church of Santa Maria Formosa in the least degree. English visitors now enter the church mainly to see the painting of *St. Barbara*, by Palma Vecchio, which is no doubt a masterpiece. But to a Venetian the building is more interesting than anything within it. "The Brides of Venice" is an incident in Venetian history which has inspired not only many paintings, but at least one opera. The scene of it was the old church which stood on the site, and was the earliest dedicated to the Blessed Virgin. Close to the tower is a canal, there is another on the opposite side, and, in fact, the land was known as the island of Olivono. From ancient times it was the custom to select twelve maidens, who received dowries from the State, and who were conducted with ceremony by the Doge and Senators to be married at Santa Maria Formosa on the Feast of the Purification. The church was the St. George's, Hanover Square, of Venice, and it was usual for a great number of marriages to take place in it on that day. In order that there might be an equality which would be worthy of a Republic, the State provided rich robes and jewellery which were allowed to be worn by the brides of the poorer class who had been selected for the occasion. The breastplates of gold which were worn existed until 1797, when they were sold to meet the expenses of the war with France. The pearls were subsequently sold in order to raise money for repairs at St. Mark's. The arrangement made by the Senate was, of course, well known throughout Italy. A band of pirates belonging to Trieste resolved to take advantage of it, and on February 2, A.D. 944, seized the bejewelled brides with their portions, carried them to the boats and fled to the lagoons. The Doge and many Venetians quickly



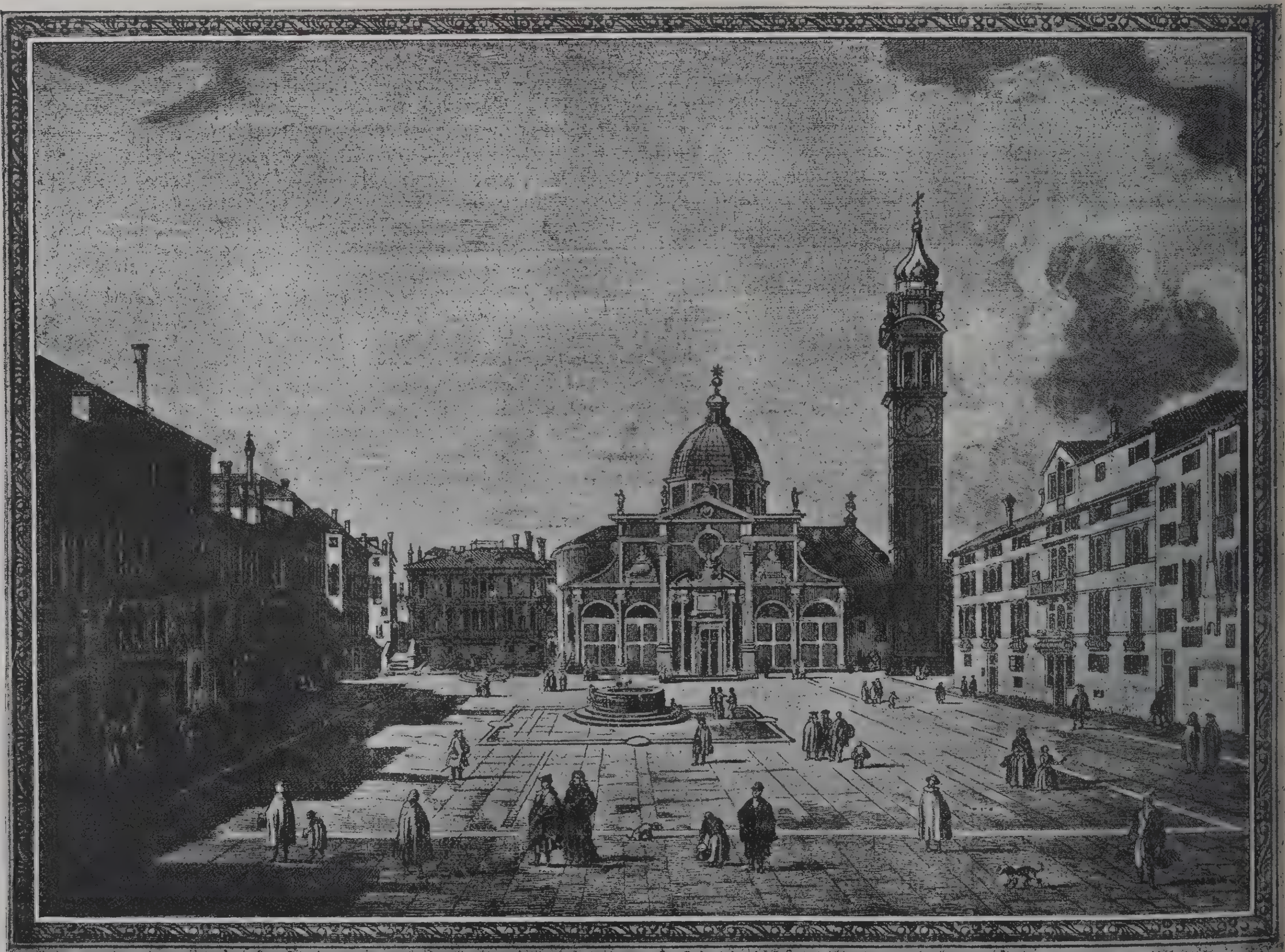
The South View of S^t. Stephens Place.

followed them; the pirates were defeated and were thrown into the sea. A fête was instituted in celebration of the event, but as the Republic declined the State marriages gradually lost their splendour.

It may seem remarkable that the altar-piece should represent St. Barbara. She was an Egyptian who lived in the third or fourth century, and was the daughter of Dioscorus, who was a prince. For some reason he confined her to a tower, where, however, she contrived to receive instruction and became a Christian. Her father denounced her before the civil tribunal, and when she had been sentenced acted as her executioner. From the circumstance of her imprisonment in a tower she became the patroness of fortifications and latterly of artillerymen. The confraternity of Bombardieri, who had their scuola like other guilds, were placed under her protection. The saint is depicted as a Venetian beauty, and it is believed represents Palma's daughter Violante, of whom Titian was enamoured, and introduced her likeness in several of his paintings. Mr. Ruskin says that St. Barbara's tower is the perfected symbol and utmost achievement of Gothic architecture, whether in Lombardy or in Salisbury, for "the geometric majesty of the Egyptian maid became glorious in harmony of defence and sacred with precision of symbol." About the practice of the Venetian and other Bombardieri he says:—"The blasphemous corruptions of her into a patroness of cannon and gunpowder are among the most ludicrous (because precisely contrary to the original tradition) as well as the most deadly insolences and stupidities of Renaissance art." In the church is also another altar-piece by Vivarini and a *Last Supper* by one of the Bassani. From the association with St. Barbara the Campanile has a peculiar fitness in connection with the church.

SHEFFIELD SOCIETY OF ARCHITECTS.

THE second of a series of lectures on "English Renaissance Architecture" was delivered by Mr. J. R. Wigfull to members of the Sheffield Society of Architects and Surveyors, and dealt with the period from 1600 to 1650. Quoting Lord Bacon's dictum that "Houses are built to live in and not to look on," he explained the arrangement of the houses of the period, and showed by a series of plans the changes which were gradually introduced, until, in the time of Inigo Jones, the Italian villa supplanted to a great extent the English house, which in many respects was more suitable to our northern climate. A few typical buildings of the early part of the period, including Hatfield House and Bolsover Castle, were described, after which the lecturer spoke of Inigo Jones, the first and perhaps the greatest architect produced by England during the Renaissance period. After a reference to the early life of this architect, he showed a series of views of buildings by Palladio of Vicenza, an architect whose work exercised great influence upon that of Inigo Jones. The purity of detail in the work of the Italian master was contrasted with the eccentricity of much of that done at the present time, and the lecturer urged the study of the principles laid down by Palladio, not for the purpose of slavishly copying him, but to see on what lines he worked to produce the effects obtained in his buildings. It had been truly said that the original man was not the one who started with a blank sheet, but rather the man who with a thorough knowledge of what had been done in the past was able to impart as much fresh thought as possible to the work he was called upon to perform. Returning to the work of Inigo Jones, his design for the great palace at Whitehall was described, a design which, with the exception of the banqueting-house erected in the years 1619-22, was fated to remain unrealised in actual fact, the Civil War putting an end to this and many other architectural projects of the time. The work of that architect at St. Paul's Cathedral, Wilton House and many other places was also dilated upon, and illustrations of earlier architec-



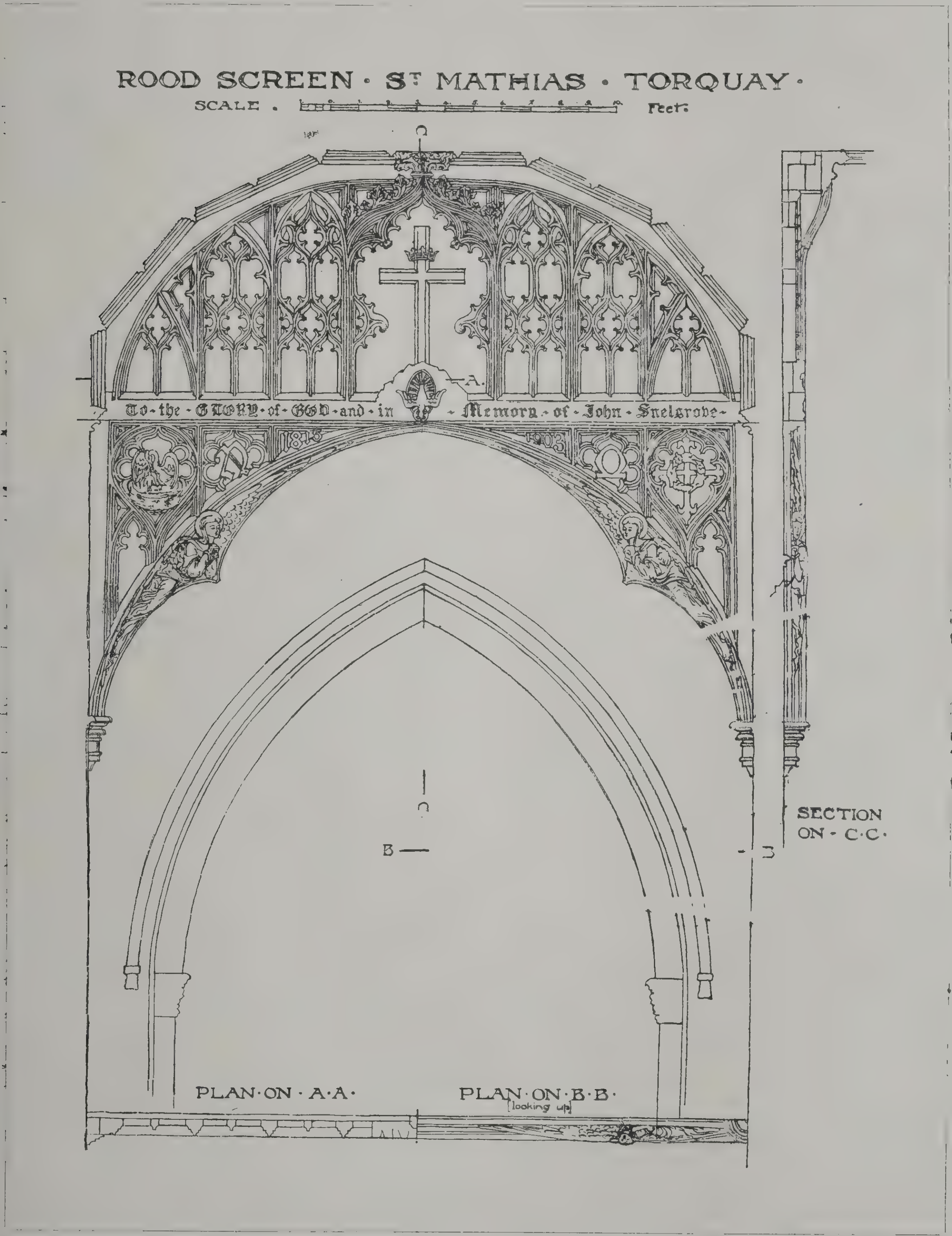
The Church and Place of St. Maria Formosa.

tural efforts were used to show the changes he effected in the internal treatment of buildings.

The lecture was fully illustrated by lantern-slides, most of which had been prepared by the lecturer. A vote of thanks was accorded him on the proposition of Mr. E. Holmes (president), who occupied the chair, seconded by Mr. W. J. Hale and supported by Messrs. H. L. Paterson and J. M. Jenkinson.

MANCHESTER INFIRMARY.

A MEETING of the Board of the Royal Manchester Infirmary was held on Monday when a report was presented by the architects of the new Infirmary (Messrs. Hall & Brooke) on the progress of the building. They stated that it was just over a year since they were finally instructed to proceed with the working drawings, with directions to arrange for a separate contract for the foundations and substructure. The foundations contract was signed in May, and the works at once energetically proceeded with. In August the supplemental contract was settled to carry up all the buildings to the level of the ground floor. As to the present condition of the buildings, the report treated in detail of the different blocks. Of Block B, the teaching department, for instance, it was stated that the walls were within about 3 feet of the top of the ground floor. In Block C, for administrative purposes, nearly all the walls were up ready to receive the floor girders. As to the superstructure, the architects added, great progress had been made with the drawings and specifications. About 105 drawings and 400 copies had already been completed and sent out, and about 300 pages of the specifications had been written. The architects were, and thought the Board would be, satisfied with the progress made by the contractors.


ROOD SCREEN · S^T MATHIAS · TORQUAY ·
SCALE . Feet.
C
A.
To the GLORY of GOD and in Memory of John Snelgrove
1815
1903
C
B
B
SECTION ON · C·C·
PLAN·ON · A·A·
PLAN·ON·B·B·
(looking up)

THIS screen was recently fixed over the chancel arch of Ilsham parish church, Torquay, and was dedicated on Ascension Day of this year. It was erected by Mrs. Snelgrove as a memorial to her husband, the late Mr. John Snelgrove, and was designed in an honorary capacity by the late Mr. Chas. Forster Hayward as a tribute to a very old and valued friend. It was executed entirely in English oak, and the work was carried out by Messrs. Harry Hems & Sons, of Exeter, under the superintendence of Messrs. Hayward & Maynard, architects, of 20 John Street, Adelphi, W.C.

NOTES AND COMMENTS.

It is strange how little notice has been taken of the death of Gustave Crauk, the French sculptor. He was in his seventy-eighth year. Crauk was a native of Valenciennes and among his masters was Pradier. He won the Prix de Rome in 1851, and of medals and other rewards he had an abundance. On his return to Paris he was able to find an introduction into the highest Imperial circles, and he was the first sculptor who was allowed to model a bust of the Empress. He possessed humour and seems to have enjoyed the creation of satyrs and Bacchantes. But the fine memorial of Admiral Coligny, at the back of the Paris Oratoire, shows he was capable of undertaking the highest class of work. Although the space occupied by the memorial is very narrow and is bounded by upright iron railings placed close together, the reformer has the dignity of a martyr. His busts of celebrities are very numerous. Gustave Crauk was an officer of the Legion of Honour, to which he belonged since 1864.

The gift of Mrs. Elder to the Art Gallery of Glasgow comprises several interesting paintings. Among them are a *Grand Canal, Venice*, by Canaletto, which formerly belonged to Sir Richard Wallace; *Nell Gwynne*, by Lely, and a *Landscape* having figures by Teniers. English art is represented by John Linnell's *Disobedient Prophet*, Armitage's *Hero and Leander*, a *Loch Achray* by Sam Bough, and works by M. Stone, Peter Graham, Cooper, Smythe and Goodall. There are examples by Diaz and Corot. Other paintings and drawings can be acquired if desired. There is a thoughtful clause to the effect that the legacy duty is to be paid by the trustees. The paintings are not the only gift to the city of Glasgow which Mrs. Elder has bequeathed.

The arrangements between contractors and sub-contractors, especially in engineering works, continue to be made in rather a primitive manner. In other words, lawyers are not engaged, and consequently there is more or less vagueness about what has been agreed upon. The hearing of a case arising out of such laxity came to an end before Mr. Justice Channell on Tuesday. The circumstances were of an ordinary kind. Mr. Strachan, of Cardiff, entered into a contract with the London and North-Western Railway to erect a bridge at Wembley Park, Middlesex, among other works. He then arranged with Messrs. Cross & Cross, of Walsall, to supply steel and ironwork. Railway contracts have to be completed expeditiously. It was therefore understood that the steel and iron would be provided in four months from May 1904. As the railway company became pressing Mr. Strachan in November entered into a contract with another firm. Messrs. Cross & Cross therefore brought an action for breach of contract, for work and labour done and for material supplied. Mr. Justice Channell came to the conclusion that delivery in four months was not a condition in the contract, but was a stipulation which, if broken, might bring the right to claim damages. His Lordship said he was satisfied that the plaintiffs were so far behind in October that they could not have completed the work in a reasonable time. The delay did not, however, give the defendant the right to throw up the contract on that account. His Lordship accordingly gave judgment for the plaintiffs for 214*l.* 9*s.* 2*d.* damages with costs. A counterclaim of the defendant for 19*l.* 10*s.* was also admitted. The decision will cause some consternation. Time is an element in the majority of contracts, and nobody would be surprised at the statement of the defendant that his credit had been seriously damaged with the railway company. The results show the necessity of having a definite understanding with the sub-contractor that if goods are not delivered or work executed at a certain time other arrangements are to be made.

ILLUSTRATIONS.

MOUNT MELVILLE, ST. ANDREWS, N.B.: PRINCIPAL STAIRCASE.

WHITE LODGE, CHEVELEY.

This house has been erected on an estate at Cheveley, near Newmarket, for Mr. L. W. Graystone, of Prince's Gate, London, and is situated in an open and well-wooded district with fine views of the surrounding country. The house contains about twenty rooms on three floors, plans of two of which are given. The walls are built in 14-inch brickwork cement rendered, and finished white rough-cast plaster and oak timberwork, the roof being covered with dark brown Broseley tiles and the windows, &c., painted green. The whole of the work, including the staircase, which is in wainscot oak, and the internal fittings, has been carried out by Mr. F. Tooke, contractor, Bury St. Edmunds, from plans prepared by and under the superintendence of the architect, Mr. H. Steward Watling, F.S.A., Ringsway House, Dovercourt, and Ipswich.

CATHEDRAL SERIES.—WAKEFIELD: ST. MARK'S CHAPEL.

WHITE OAK SCHOOLS, SWANLEY, KENT.

The drawings illustrate the schools which have recently been erected for the Metropolitan Asylums Board for the special purpose of battling against the "scourge of the Poor Law schools"—ophthalmia. The duty of making provision for children suffering from ophthalmia was placed upon the Metropolitan Asylums Board by order of the Local Government Board in 1897, and the work of designing the requisite accommodation naturally occupied a very considerable period, the schools being an entirely new departure and following no existing model, the main object being that the education of the children might be continued while they were under the care of a resident, and also a visiting, medical officer. The site purchased at Swanley covers an area of 49 acres. As shown upon the site plan, at the entrance is the gate porter's lodge and the receiving block with an ophthalmoscopic room and laboratory. There are thirty cottages for children, arranged in fifteen pairs and in five groups of three pairs. Each cottage accommodates twelve children and a house mother. In connection with each of the five groups is a small staff block containing a room for the medical treatment of the seventy-two children in the group, and quarters for the charge nurse who carries out the treatment, a cook general, and a general servant; the heavier part of the cooking is done in this block. The central administration block contains quarters for the matron, assistant matron, domestic and laundry staff, extra nurses, storekeeper's office, general store and needle-room. The other buildings include the junior school, senior school (with special room for the ophthalmic surgeon), the laundry, four cottages for the male staff, infirmary and isolation cottage. The class-room at the end of large drill-hall in senior school is fitted up as a chancel, thus making, with the above drill-hall, a chapel in which to hold Divine service, the chaplain being the Rev. A. W. F. de Spailier, of St. Mary the Virgin, Swanley Junction. The architects were Messrs. Newman & Newman, of 31 Tooley Street, London Bridge, S.E., and the contract, which was for the sum of 112,324*l.*, was carried out by Mr. Charles Wall, of Chelsea. The clerk of the works was Mr. W. Lawrence. The heating and hot-water services are by Messrs. Kinnell & Co., the hot-air stoves by Mr. J. Grundy, the terrazzo paving by the Art Pavements and Decorations Company, and the wood-block floors by Messrs. Goddard & Sons, of Farnham.

MEDIÆVAL LIBRARIES.*

IT is sometimes very useful, when assailed by a dogmatist, to ask him to define his terms—it often stops him entirely. To prevent such a catastrophe happening to me, I propose pointing out at once that library connotes: (*a*) the room or building and the furniture in which books are stored; and (*b*) the books themselves, from both points of view, the material on which is the writing or printing and the binding, also the subject matter, whether literary or scientific. The word also appears to have been used in the sense of a bookcase in an inventory of the goods in the church of St. Christopher-le-Stocks, made in 1488. "On the south side of the vestrarie standeth a grete library which ii. longe lecturnalles thereon to lay on the bookes." Mediæval historians generally began with the Creation, so to fairly understand the evolution of the library we must glance at the earliest modes of caring for books known to us. An important factor in the evolution of library furniture is the material on which the book is written as a determinant of the shape (it must be remembered that until, say 1440, every or nearly every record was a written one). In regard to Roman libraries, it must be remembered in the first place that those who fitted them up had to deal with rolls (volumina), probably of papyrus, but possibly of parchment, and that a book, as we understand the word, the Latin equivalent for which was codex, did not come into general use until long after the Christian era. When books of a shape similar to that with which modern librarians have to deal had to be accommodated as well as rolls, it is manifest that rectangular spaces not more than a few inches wide would be singularly inconvenient. They were, therefore, discarded in favour of a press, a piece of furniture which would hold rolls as well as books, and was, in fact, used for both purposes.

With regard to the custody of books in the early monasteries, or indeed anywhere in the first few centuries of the Christian era, it is difficult to say much; they were probably kept in presses or cupboards. The centre of monastic life was the cloister, and there at first they kept their books (except, perhaps, in a few special instances). We have no certain knowledge of the furniture used. St. Pachomius (A.D. 322-45) places his books in a cupboard (fenestra); St. Benedict, in his Rules (early sixth century), uses only the general term library (bibliotheca), which may mean either a room or a piece of furniture, and the word "press" (armarium), with which we become so familiar afterwards, does not make its appearance till near the end of the eleventh century. This word was used by the Romans to signify both a detached piece of furniture and a recess in a wall into which a contrivance might be inserted. There are two such recesses in the east walk of Worcester Cathedral, formerly a Benedictine monastery. They are between the chapter-house and the passage leading to the treasury and other rooms. These were in use so late as 1518.

As books multiplied, ampler accommodation for them became necessary; and as they were to be read in cloister, it was obvious that the new presses or cases must either be placed in the cloister or easily accessible from it. The time had not yet come when the collection could be divided, and be placed partly in the cloister and partly in a separate and sometimes distant room. This want of book room was supplied in two ways. In Benedictine, and possibly in Cluniac houses, the books were stored in detached wooden presses, but the Cistercians adopted a different method. At the beginning of the twelfth century, when that order was founded, the need of additional book space had been fully realised, and consequently in their houses we meet with a special room set apart for books. But the conservative spirit which governed monastic usage and discouraged any deviation from the lines of the primitive plan, made them keep the press in the wall close to the door of the church; and, in addition to this, they cut off a piece from the west end of the sacristy, which usually intervened between the south transept and the chapter-house, and it was fitted up for books. There are rooms in such a position, and destined no doubt to this use, at Kirkstall Abbey, Beaulieu, Hayles, Jervaulx, Netley, Tintern, Croxden and Roche. The practice of devoting separate rooms to this purpose, of course, grew, and is attested by extant catalogues. In the south cloister at Gloucester there is a splendid series of twenty stone carrels built between 1370 and 1412. Each carrel is 4 feet wide, 19 inches deep and 6 feet 9 inches high, lighted by a small window of two lights. There is no trace of any woodwork appertaining to these carrels, or of any book-press having ever stood near them. The easternmost carrel, however, differs a good deal from the others, and it may have been used as a book-closet. There is a bench-table along the wall of the church opposite to the carrels, but it does not appear to have been cut away to make room for book-presses, as at Westminster. The south alley appears to have been shut off at the east end, and also at the west end, by a screen. Each carrel must have closely resembled a sentry-box, with this difference—that one side was formed by a light of the window looking into the cloister garth, opposite to which was the door of entrance. This would be of no great height, and, moreover, was made of openwork, partly that the work of the occupant might be supervised, partly to let as much light as possible pass through into the cloister library, the seat being placed so that the light would enter on the reader's left hand. Carrels seem to have been usual in monasteries from very early times—not to have been introduced at a comparatively late date in order to insure greater comfort. They were in use at Westminster between 1258 and 1283; at Bury St. Edmunds they were destroyed in a riot in 1327; they occur at Evesham between 1367 and 1379; at Abingdon in 1383-4; some were put up at Christ Church, Canterbury, between 1372 and 1494.

Scriptoria or carrels were under the general discipline of their house, but had special superadded rules of their own. These rules, as preserved to us in certain Benedictine statutes, are as stringent as can well be imagined. Artificial light was entirely forbidden for fear of injuring the MSS., and to prevent idleness and interruption no one was allowed to enter the room besides the scribes, except certain of the higher officers of the abbey. Besides the monks who acted as scribes and illuminators, there were three classes of secular scribes, who would only come to the monastery when their services were needed—illuminators when the abbey could not itself provide men capable of finishing off the MS. by rubrication and painting; librarii, a common kind of hack scribe; and notarii, who would be required for legal purposes, such as drawing up a deed or will. The book, now written, rubricated and illuminated, is taken to the binder. The common binding in the Middle Ages for books of some size and interest was leather, plain or ornamented, white or brown, fastened over solid wooden boards, with raised bands four or five in number across the back. The sewing of the sheets and passing of the threads over these bands usually results in a firmness and permanence such as no ordinary modern book possesses; not infrequently the solid oak sides may have given way under violent treatment, while the sewing remains perfectly sound. In general, however, the oak sides are as permanent as the back, and the solid pegging, by which the parchment strings projecting from the thread-sown back are wedged into the small square holes and grooves cut in the oak sides, is a sight worth seeing for workmanship and indestructibility. But for appearance sake, in Mediæval times, the finest books received an ivory, silver, or even gold binding, and the sides were carved or worked into embossed figures and set with jewels, and sometimes even wooden sides were highly ornamented. Thus the Latin Gospel of St. John, taken from the tomb of St. Cuthbert and now at Stonyhurst, is described as bound (in the tenth or eleventh century) in boards of thin wood covered with red leather. In Ireland, but rarely elsewhere, we find a "theca" or "cumdach," a case in which a volume was kept, and on this, instead of the volume itself, the richest work was lavished. It is pleasant to read that in the twelfth century England was before all foreign nations in binding, London, Winchester and Durham having distinctive styles. The great value of the bindings of some Mediæval books subjected them to a peculiar danger—that of excrustation, the stripping off of the binding, the loss of which was extremely likely to cause the destruction of the MS. itself. This risk, of course, various things—charity and need, as well as cupidity—were likely to produce.

The great increase of books during the fourteenth and fifteenth centuries necessitated better arrangements for storing them. It should be noted that the erection of a library proper was an afterthought in many of the older colleges, as it had been in the monasteries. The library which a monastery or a college built in the fourteenth or fifteenth centuries was a long narrow room, lighted by rows of equidistant windows. Occasionally, if neighbouring buildings allowed, there was a window at the end of the room also. If an old room was adapted or a new one built it was generally over existing buildings, as at Bury and Wells, over the cloisters. The fittings were lecterns of wood. On these the books were laid, each volume being fastened by a chain to a bar usually placed over the desk, but occasionally, in all probability, in front of or beneath it. The readers sat on benches immovably fixed opposite to each window. This system was in use at Bury, and at Pembroke and Queens' Colleges, Cambridge. Such a system was very wasteful of space, for when books accumulated some other piece of furniture had to be devised to contain them. The desk could not be dispensed with so long as books were chained, and it therefore occurred to an ingenious carpenter that the required conditions would be fulfilled if the two halves of the desk were separated, not by a few inches, but by a considerable interval, or broad shelf, with one or more shelves fixed above it. Thus a case was arrived at containing four shelves at least, two to each side of the case which could be made as long as the width of the library permitted. Mr. J. W. Clark calls this system "the stall system," from the word stallum, which is frequently applied to a case for books in a Mediæval library. There are five fine examples of this system (which was probably monastic in its origin) at Oxford—none at Cambridge, where it is to be noted that monastic influence was never extensively exercised. There was a set at Clare College supplied to the Old Library about 1627, but they have since been altered by the removal of the desks. Those at Oxford are at Corpus Christi College (1517), St. John's College (1596), Sir T. Bodley's Library (1598), Merton College (1623), Jesus College (1677-9), Magdalen College (of uncertain date).

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* A paper read by Mr. T. W. Williams at a local meeting of the Bristol and Gloucestershire Archæological Society in Bristol.

While the stall system was being generally adopted in England and in France, a different plan was followed in Italy. It consisted in a return to the "lectern system," with the addition of a shelf below the lectern, on which the books lay on their sides when not wanted, and an ingenious combination of a seat for the reader with the desk and shelf. The earliest library fitted up in this manner appears to be at Cesena, a city of North Italy, between Forli and Ravenna. Built in 1452, it is practically in its original condition. The Medicean Library, Florence (designed by Michel Angelo and completed in 1571), is of this type. For convenience and for appropriate decoration it stands alone among libraries. Mr. J. W. Clark says that the first library with the book-shelves arranged against the wall, instead of at right angles to them, is that of the Escurial, the cases being made in 1584; the first instance in England being that of the Bodleian Library, where the first stone of the eastern wing was laid in 1610 and completed with the fittings in 1612. The principal sources from which we draw our knowledge of Mediæval libraries are:—(1) "Boston of Bury's Synoptical or Comparative Catalogue," compiled at the beginning of the fifteenth century; it relates to nearly two hundred monastic houses, but is far from complete. (2) Catalogues of libraries of various monasteries still existent. (3) Leland's "Collectanea," and (4) Tanner's "Bibliotheca." The only Somerset houses of whose books we know anything are:—Athelney, Benedictine Abbey; Bath, Benedictine Abbey; Bruton, Austin Abbey; Glastonbury, Benedictine Abbey; Hinton, Carthusian Priory; Keynsham, Austin Abbey; Montacute, Cluniac Priory; Muchelney, Benedictine Abbey; Taunton, Austin Priory; Wells, Secular Canons; and Witham, Carthusian Priory.

THE NORWICH SCHOOL OF PAINTERS.

A LECTURE was delivered last week by Mr. Percival Gaskell, in the Norwich Technical Institute, dealing with landscape-painters and incidentally with the Norwich School, of which the *Mercury* gives an abstract. Landscape, he said, was one of the most important branches of English painting, and we have always been leaders in the field of landscape-painting. Towards the middle of the eighteenth century they had growing up a group of men who might be described as topographical painters rather than landscape-painters. Richard Wilson (1713-82) was the first great English landscape-painter, though at first he was a portrait-painter. He paid a long visit to Italy, and as a result his later work was Italianised. Although his work did not sell well, he still founded a sort of tradition and very greatly influenced the landscape of the next generation. Turner frankly founded himself at one period of his career on Wilson, and, so far as they could trace any definite influence in Crome's work, Wilson was the first man of importance to influence him. Gainsborough was much more naturalistic than Wilson. Wilson looked upon nature as so much material out of which to compose a grand picture. Gainsborough, on the other hand, took his inspiration much more directly from nature itself. Together they laid the foundation of our great English school of landscape, leading to Turner and Constable. Constable was born in Suffolk, and it was very interesting to notice what a number of great painters these eastern counties had given us. Taking the field of landscape alone, Gainsborough and Constable were both Suffolk men, and Norfolk contributed Crome and Cotman, to say nothing of a number of lesser luminaries. Like Gainsborough, Constable had a great love for the scenery of his native county and most of his pictures are painted in the valley of the Stour. He rejected tradition for personal observation, painting nature with the utmost realism and with very great power. His departure from tradition excited remark. Sir George Beaumont, a connoisseur and a painter of no mean order, is reported to have asked him, after looking at one of his pictures, "Yes, but where is your brown tree?" Brown was considered to be a more artistic colour than green. Certain effects of light were to be avoided because they did not lend themselves to treatment according to the rules of the prevailing school. Sir George Beaumont was again reported to have said, "Yes, I can see your first and second lights, but I cannot quite make out where the third is." The whole thing had been reduced to a sort of rule, and Constable set all these rules at defiance. Constable never went abroad, but in the main painted Suffolk meadows and trees. Even in his own county he very seldom seems to have sought out subjects, but took the valley of the Stour, or, when living in London, took Hampstead Heath. Wherever he went he appeared to realise that every bit of English country is worth painting. We English have gradually come round to appreciate Constable's art. It was not greatly admired in his own time, and was very much less popular than Turner. Even Ruskin, the great champion of Turner, had treated Constable with the grossest injustice. Probably it was because Constable was the rival of Turner. In France, Constable was appreciated from the first. He next came to a group of men who naturally were of particular interest to those who lived in Norwich. In England, as a rule, art had been centralised, and had not flourished in local centres. The very great attractions of London had almost invariably drawn artists of any size up to that city. Very few had been contented to remain in their native county. Indeed, he thought they must come to the conclusion that the Norwich School owed very much of its development, if not indeed its existence, greatly to the fact that John Crome did not go up to London, but remained in Norwich. For this Norwich School centred round Old Crome, its founder. He began life as a doctor's errand-boy, and then became a house and sign-painter. It had been suggested that some of the very remarkable breadth and simplicity they saw in his work might be due to his early training, and it was possible there was something in that theory. In landscape he was greatly self-taught. He set up as a drawing master in Norwich, and though he visited London, and once went to Paris, the very great bulk of his work was done in and round Norwich. In 1803 was founded the Norwich Society. At first it held fortnightly meetings, but in 1805 it commenced to hold exhibitions of paintings, and to this Crome was a constant contributor, being for many years president of the Society. In his earlier work the principal influence was that of Wilson, though to a very much less extent than in the case of Gainsborough. The scenes he painted were scenes such as most people would pass by as not particularly impressive, but he would make a grand and impressive picture out of the very simplest elements. "The Windmill," which Mr. Gaskell threw on the screen, was nothing in itself, the charm was in the way in which it was seen. There was a mill, a signpost, three donkeys and a boy. Crome did understand so wonderfully the value of simplicity. The great picture of Mousehold, in the National Gallery, was another instance in which they saw again a fine and dignified picture made out of two great dips of that rolling heath. In the Castle museum they would see some of his studies of woods, painted with all the minuteness of a Dutch painter. Mr. Gaskell alluded briefly to the younger Crome and to Stark, and then went on to deal with Cotman (1782-1842), the second great master of the Norwich School. Unfortunately Cotman, who has left such magnificent work, was often misrepresented by the work which passed under his name. Mr. Gaskell spoke of the immense dignity of the conception of Cotman, and of the broad and simple effects of his light and shade. His group of Yarmouth fishing boats off Yarmouth in the Castle museum was probably his masterpiece in oil-painting; it was certainly better than the picture in the National Gallery, which he doubted to be a Cotman at all. Cotman went to London, returned to Norwich, and then went back to London, and with his final departure the Norwich School languished. Proud, indeed, might that city be which had produced two such great masters of landscape art.

CHARLES A. CUMMINGS.*

HALF a century ago or so American architecture was at its lowest level. The New England carpenter, who planned most of our houses, had been drawn aside by changes of fashion from the sober taste in which the traditions of the Georgian school had nurtured him, and, with Downing's books or perhaps Batty Langley's in his hands, was a different being from the old carpenter with his kit of quasi-Classical moulding-planes and his temperate habit of design who had preceded him. There were hardly any professional architects among us; the influence of the training of older ones lingered in the traditions of the builder's trade, in the buildings of the Colonial time or in a few books which contained pictures, more or less adequate, of the Classic orders or designs based upon them. Among the few men who took the title and work of architects were capable and instructed builders, like the late Gridley J. F. Bryant and Nathaniel J. Bardley, and they gave employment to two or three designers of talent, but not of thorough training, Hammat Billings and Arthur Gilman, for instance, in whose work, so far as it remains, we still see much to admire.

At this time there came forward, under just what influences it is not easy to say, two very able artists—Edward C. Cabot, the honoured first president of this Society, and George Snell, a member of the Royal Institute of British Architects—whose practice went far to set architecture on a solid professional footing, and give it the position and the quality of an understood art. They were followed by a group of young men of very different type from most of their predecessors: men of education and aspiration, the greater part of them college men, who twenty years earlier would have gravitated to the ministry or the law, but who had an artistic impulse that would not be satisfied in these. They found architecture already a profession, calling for a definite professional education. They took possession of it, and they and their successors have given Boston its prestige as a city of architecture. Among them was Charles A. Cummings, the second president of this Society, whose honoured life we commemorate to-night.

I have stopped to say these things because they mark the conditions under which he began his practice; conditions that influenced the quality of his work and gave tone to his career. They are in a way an index of the professional position in which he began his practice.

Mr. Cummings's advanced schooling was in the Van Rensselaer Polytechnic Institute, and his architectural study was in Mr. Bryant's office, where he met Mr. Sears, who afterwards became his partner. His fondness for knowledge was great, his artistic instinct strong; before he began practice he took a long professional tour through Europe and Egypt—a thing not so much a matter of course then as now—and on his return opened an office for himself. After a year or two of solitary work he made a partnership with Mr. Sears, a partnership which lasted with singular felicity and efficiency as long as he continued in practice.

This was a most stimulating period in our architectural evolution. The note of the time was innovation. Independence was in the air. The self-reliant architect had unlimited opportunity to embody his aspirations and experiments; could bring all the arts into his service. Architectural books and journals, richly illustrated, photographs, new processes of reproduction—these put before him an abundance of precedent such as had been before unknown, and were soon to become, as the late Mr. Van Brunt used to say, an embarrassment and a snare to the young designer. The Gothic movement in architectnre and the Romantic movement in letters were behind the architect; the excitement of novelty was his continual spur. It became the doctrine of the day, new to our people, that the architect should be an artist broadly versed in all the arts; that the correlation of the arts in great monuments and great cities should be his special study. The doctrine was as old as Vitruvius, was the foundation of the practice of the great artists of the Renaissance; but it came like a new gospel into our profession here, and all our young architects made haste to illustrate it. The buildings of our cities took on a new aspect. There was no better representative of the new spirit than Mr. Cummings. He had a ready invention, a wider range of resource than most, a sober judgment and refined taste that held him back from unprofitable vagaries. His work from the beginning showed a dignity and sobriety that lent it character, and so it was in pleasant contrast to much of the work of those rather fantastic days. His designs were greatly varied; their composition was always well arranged; their detail animated and graceful. Perhaps their chief distinction was a certain tranquil elegance that was certainly not the common characteristic of our revival.

I have not time or opportunity to consider his buildings in detail. The earliest that I remember, the Macullar-Parker building, designed in what we then called the Italian style, attracted much attention by its elegance, and still stands in witness of him. He did not work long in this style, for his travel in Italy had sent him home an ardent Mediævalist, and the invasion of the Victorian Gothic, which swept over our country in the sixties, chiming in with his own inclination, turned him quite away from Classicism. But he was too independent to give himself over to the Victorian movement. The broadly pointed arches and the fair surface of the Italian Gothic buildings tempted him more than the buttresses, the sharp arches and crowded mouldings of the English. His liking for polychrome effect led him in the same direction. The polychrome treatment certainly was Victorian, but it was really un-English; and Mr. Cummings's tendency was, apart from the drift of his fellow architects, into a manner of his own. He was a reader and admirer of Ruskin, though not a devotee, and one of his earliest buildings, the Mason and Hamlin building, beside the Common, is a graceful adaptation in plain white marble of Venetian forms, into which he may very well have been led by the study of Ruskin's writings. It still stands, but commercial exigencies have robbed it of the elegant loggia at its base that was its distinction.

The burning of Boston in 1872 was the greatest opportunity and stimulus that her architects ever had, and Mr. Cummings's firm, in which, as I understand, the designing fell mainly to his share, was very busy in covering the burnt district with new commercial buildings. It is interesting to see how readily, artist and student as he was, he bent his ideas to the new forms and multiplied fenestration that were called for. Much of the work of that period is already displaced, but several of his buildings on Devonshire Street are left to show how decisively he could sink the restraints of style in favour of practical wants. The Montgomery building on Summer Street is more characteristically Italian than most, for all its Victorian roof, and shows the graceful trend of his design undismayed by commercial restrictions. A competition design for a bank building, which appears in vol. ii. of the "Architectural Sketch-Book," is a very happy example of the play of his fancy when it was untrammelled. It does not appear to have been carried out, and I doubt if the designer himself would have chosen it for a bank in his later years; but it is a charming composition, almost purely Italian, worked out *con amore* and with an easy command of delicate detail that would have done credit to Sir Gilbert Scott.

His sense of style was keen; a natural product of the feeling for harmony in all things that was essential to him. Yet he was very independent in his conceptions and very far from being a pedant, as the buildings which I have quoted may show; indeed pedantry has not been the vice of American architects. His *magnum opus*, the New Old South Church, with its stately campanile, is an illustration of his free handling of his chosen style—in subservience to the exactions of congregational worship—of the abundance of his resources and of the sumptuousness of detail in form and colour that he had at command when the occasion allowed it. He did but little in other styles after he was actively busy, I suspect; but I recall one city house on Clarendon Street that he designed for Mrs. George Fiske in the modern French manner, which showed that he could successfully express himself in another language if there were need.

With all his artistic quality and fineness of instinct, the background of Mr. Cummings's character was an eminent sanity of mind, a fairness of judgment that made his counsel valuable in practical matters and public questions. He was one of the founders of this our Society; at one time, if I remember rightly, its secretary; later its vice-president, and, as you all recall, for a number of years its president, following Mr. Cabot. As a member of many committees, both of this Society and of the American Institute of Architects, he did long and useful service to our profession. He served on many public committees—on the commission for preserving and restoring the Massachusetts State House, later on the city's Art Commission. He was a director of the Boylston Bank, president of the permanent committee of the school at the Museum of Fine Arts, trustee of the Boston Athenæum and of the Museum of Fine Arts. The memory of his colleagues and in many cases public records are witnesses to the faithfulness and amenity with which he performed these important duties. The last of his public services, and characteristically enlightened ones, are the bequests in his will of 10,000 dols. to enlarge the architectural equipment of the Boston Athenæum and of 50,000 dols. to the Museum to found and maintain a collection of representations—"whether medals, casts, paintings, drawings, or photographs"—of the best architecture of all ages.

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* A memorial address by Mr. W. P. P. Longfellow, delivered before the Boston Society of Architects at its October meeting.

But to those who knew Mr. Cummings well his personality was the first thing. Like all men of real individuality, he was more than his work, excellent as that was. His interests were so wide, his cultivation so general, that he was one of the most interesting of companions, one of the most valuable of friends. If you visited him at home, you found his study table covered with stimulating books! his walls with clever sketches and pictures. His taste was as sure in literature as in art. A great reader, he was also a graceful and suggestive writer on purely literary topics as well as on professional. In his younger and more leisurely days he wrote much for reviews and magazines, especially for the "Christian Examiner" in its palmy times, under Dr. Hedge and Mr. Hale. Afterwards he was an important contributor to the literature of our profession. He had a large share in the writing of Scribner's "Encyclopædia of Architecture in Italy, Greece and the Levant," and furnished articles to Mr. Sturgis's "Dictionary of Architecture and Building." He wrote the architectural section of Dr. Winsor's "Memorial History of Boston." His chief literary work is his "History of Architecture in Italy," extending from Constantine to the Renaissance, which by virtue of its breadth of scholarship, its sanity of judgment and interest of presentation, treats this difficult subject more successfully, I think, than any other book in our language.

The same qualities which made his published writings interesting and valuable gave charm to his correspondence and conversation. Whether you talked with him of politics or public affairs, of books or art, you found the same right-mindedness, the same intellectual resource, the same fertility of expression. A fortunate mingling of alertness and serenity was one source both of his attractiveness and his efficiency. Even at his busiest times he did not allow his work to ruffle him. He would come quietly down to his work in the morning—not very early, I believe—throw off his coat, and sit down to his table and do more work in two hours than most men in four.

We have lost a valued associate, a rare example of the best in private, in public, in professional life. Absolutely without self-seeking, he received ample acknowledgment; whatever of general recognition, of positions of trust, of public confidence, was natural to his profession, was given him in good measure, with no shadow of rivalry. To his intimates the loss of his friendship is very great. It is not common to meet a personality so generous and so upright, a mind open on so many sides, with so much charm of fancy and of thought, a companionship so winning—I suspect that in these eager, strenuous, prosaic days it may come to be rarer still. If you have such friends, cherish them; when you lose them it will not be easy to replace them.

IMPERIAL PEACE MEMORIAL.

THE project of raising in London a memorial of the members of the Colonial forces who fell in the South African war has had to be abandoned. The committee met the First Commissioner of Works on the subject. Lord Windsor on that occasion stated that he wished to impress upon the committee that the Government had from the beginning desired to recognise to the fullest extent the devotion and bravery of our Army and of the Colonial troops who so eagerly volunteered to come to the assistance of the Mother Country. It was impossible to exaggerate the value of the spirit which the Colonies had shown in this matter as a lasting source of safety to the Empire. But on further considering the suitability of the proposed site for the memorial archways at the eastern end of the Mall opening into Trafalgar Square, which at one time was held by them to be the most appropriate, the Government were compelled to abandon the idea because the deep archways were not found suitable for the inscription of a very large number of names; and as it gradually became apparent that the whole building would have to form part of the Admiralty, it was felt that it would be inappropriate for the purpose of the memorial. In the opinion of the Government the parks are not suitable places for large architectural monuments, and outside these areas the land at their disposal is so limited that it is impossible to find a site which would be appropriate for the purpose. Since this project was first put forward, at a date prior to the termination of the war in South Africa, the situation has materially changed. However regrettable may be the delay which has occurred in coming to a final decision, it has become evident to His Majesty's Government that, as local memorials have been placed throughout the length and breadth of the United Kingdom and the Colonies to those who fell in the war, this does not appear to be an opportune moment to propose the erection of a memorial such as that originally suggested.

EDWARDIAN FORTIFICATIONS OF BERWICK-ON-TWEED.

IN accordance with an order of the Local Government Board a public inquiry was held at the town hall, Berwick-on-Tweed, on Friday, November 24, regarding the ancient monuments of the borough, by Mr. P. M. Crosthwaite. The following statement was presented by the Rev. James King, B.D.:—

The Edwardian walls of Berwick-on-Tweed are situated in St. Mary's parish, of which I have been vicar for twenty-six years, and during that period have noticed with deep regret the gradual demolition of the ancient fortifications. Some years ago a gentleman from the Board of Public Works called on me at St. Mary's Vicarage, stating that the First Commissioner of Works had deputed him to inspect and report on the ancient masonry of Berwick. He produced from his portfolio a copy of a letter I had written to the Berwick papers on the threatened demolition of the Edwardian work, and at his request I accompanied him on a tour of inspection round the fortifications. The largest of three fragments of the old wall had just been wantonly pulled down even while the right of building on the site was a matter *sub judice* in the law courts, and gazing on the dilapidated blocks, white as marble, scattered over the grassy mound, he expressed regret at such needless destruction. On noticing that the two ancient fragments near the Bell Tower had a begrimed and neglected appearance, with a stagnant pool in the fosse bestrewed with broken pitchers and rubbish, he exclaimed, "This is pitiful, most pitiful." We inspected the Bell Tower, and from the existence of a Tudor arch in the stonework and other indications of comparatively late work, concluded that it belonged to the reign of Queen Elizabeth, and was merely a restoration or rather a reproduction of an ancient Edwardian tower that occupied the same spot in days of yore. The two neglected fragments are hoary with the age of six centuries, and are now the only fragments standing of the Plantagenet wall that once extended from the castle eastwards to the large corner fort in the Magdalene Fields. The representative of the Commissioner was much pleased with the Tudor walls, remarking that they are superior to the walls of York and Chester, and that Berwick may be regarded as the best walled town in the whole kingdom. He made entries in his notebook, one of which was—"Elizabethan walls, under the care of the War Department, in excellent condition; Edwardian masonry, under the care of the town, utterly neglected." This entry, I fear, is now stereotyped in the Public Works Office, and remains a permanent obloquy on our borough. In ancient times the glory of Jerusalem, Troy, Rome, Athens, &c., consisted in a great measure in their colossal walls, and Berwick's fame largely consists in her ancient masonry. Take this away, and our famous town is reduced to the level of a big village, unnoticed and unknown.

Shortly after the visit the Town Council sanctioned the demolition of the two remaining fragments of ancient work close by the Bell Tower, precious relics that amid all the changes and vicissitudes of thrones and dynasties have stood firm for 600 years, and link together this twentieth century with the era of the mighty Plantagenets. This demolition was sanctioned on the plea that the site was wanted for the erection of houses, although the half of St. Mary's parish is unoccupied ground sufficient for the accommodation of double the number of people living in this small parish. The news of the threatened demolition spread rapidly through the kingdom, and created a national storm of indignation, as it was felt that the wanton destruction of precious relics of a glorious era would be an irreparable loss not only to Berwick but to the whole kingdom.

His Honour Judge Greenwell, County Court judge, at a public trial held at Berwick, said:—"The case is one of considerable importance, because it raised the question with regard to further building operations of the Corporation, how far it was justified, as trustees of a national monument, the fortification of one of the early Edwards—namesake of the present Sovereign—in destroying such a monument for the sake of a paltry ground rent, especially as they were not like some other corporations, an indigent one."

In connection with the Michaelmas Quarter Sessions, held a month ago, Mr. H. F. Manisty, K.C., Recorder of Berwick, said:—"Berwick was a very ancient town, and a most historic one. At one time it was the capital, he believed, of a territory extending from the Tyne to the Forth, which went under the name of Bernicia. Their territory had been curtailed, but their history remained. Their history, written partly in ink in their records, was also writ large in their good old walls that surrounded them. As no man would wish to tear out one single page of his title deeds, so he hoped and begged to suggest that as no man would do that, the walls of Berwick might remain a standing evidence of the history of that old town. What impressed people now was not merely what they read in books, but what they saw with the eye. Anything which recalled the history of that town, which was part of the history of that kingdom, should be preserved to the last stone. It might seem presumptuous on his part to have made these observations, but, loving as he did that grand old town, he had ventured with all humility to make them."

The British Archæological Society, the Society for the Protection of Ancient Buildings, the National Trust for Places of Historic Interest, the Newcastle Society of Antiquaries, the Durham and Northumberland Archæological Society, and many other learned bodies raised their voices against this needless destruction, and the public press, with a united consensus of opinion, protested against such barbarous philistinism.

Amid the storm of public indignation I informed the Treasury, the War Office, the Board of Public Works and the Local Government Board of the threatened demolition of the ancient fortifications, but feeling that such public bodies might delay in taking action, I penned the following letter directly to his Gracious Majesty the King:—"May it please your Gracious Majesty,—Six centuries ago your ancient town of Berwick-upon-Tweed was enclosed with a colossal wall erected by your illustrious predecessor, Edward I., the greatest of the mighty Plantagenets. That wall was strengthened and heightened by King Robert the Bruce, and further fortified with nineteen lofty towers. Through the ravages of time, war and neglect this diadem of towers that surmounted the fortifications have one and all been swept away, while the Edwardian wall itself now lies buried beneath a vast agglomeration of grass-covered mounds lying in wild confusion outside the more modern fortifications. With the exception of the castle shell and a large corner fort fronting the sea, only two fragments of this ancient royal work are left standing above ground, and I exceedingly regret to inform your Majesty that the Berwick Town Council have sanctioned the demolition of these two fragments, now hoary with the age of six hundred years, precious relics of days of yore that have stood firm amid all the changes and vicissitudes of thrones and dynasties, and link together the twentieth century with the stirring era of the mighty Plantagenets. The destruction of such monuments of antiquity would be a deplorable act and an irreparable loss, not only to Berwick but to the whole nation. May I humbly suggest that a word from your Majesty to the First Commissioner of Public Works would probably avert such a calamity and allay the anxiety of your Majesty's loyal cultured subjects."

"Where the word of a king is there is power." His Gracious Majesty, on hearing of the contemplated destruction of the historical remains of his illustrious predecessor, at once despatched a delegate to stay the demolition going on in Berwick, and but for His Majesty's prompt intervention the ancient fortifications of Edward I. and King Robert the Bruce, extending as far as the Bell Tower, would have been levelled with the ground. The king's messenger was, however, too late to save a large fragment of Berwick's original wall, namely, a solid block of masonry 10 feet high with external ashlars, welded together with hot lime and forming a mass as hard as adamant. This grim relic of a stirring era in our national history had witnessed many strange vicissitudes and outlived the downfall of thrones and dynasties, but in spite of much earnest pleading to spare this stern survival of days of yore, it was heartlessly battered down by a building contractor, and posterity has thus been deprived of its rightful inheritance. It took the labourers above a week to batter it down, their pickaxes bumping off the firmly cemented mass like a ball rebounding from a wall. On remarking to one of them that the block of masonry they were battering down was 600 years old, he replied that it would have stood another 600 years, so firmly had the hard stones been run together with hot lime.

The king's messenger recommended the Government to purchase the whole of the ancient fortifications, extending for about 300 yards, but the Treasury refused to remove entirely the responsibility of the Town Council, the constituted trustees of monuments which are part of the history of the country, monuments which they should have been proud to preserve as a duty owed to the fair name and historical fame of Berwick-on-Tweed. For the preservation of the old masonry the Government consented to lease for 150 years the section of the fortifications containing the Bell Tower and the two ancient fragments aforesaid, committing the remainder to the protection of the Town Council.

In spite of Royal intervention and Government aid, in spite of the moral indignation of the nation, it is sad to learn that the Town Council have proposed to sell for building purposes another site on the Edwardian fortifications adjoining the section purchased by the nation, and are now only awaiting the sanction of the Lords Commissioners of the Treasury, a sanction which is necessary for legalising any proposed lease of ground on the ancient walls. There exists no adequate reason for further demolition, for the proposed erection is not for the working classes, and would not only obscure the ancient work but would also mar the beautiful panorama that meets the eye on passing the cattle mart towards the sea. Moreover, 70 feet more of the already curtailed fosse would be filled up, and the grassy mound would be sadly missed by my humble parishioners. The historical ruins of our ancient borough, hoary as they are with the age of six centuries, are national property, and from their historical associations ought to be regarded as inviolable. Let me, therefore, ask the Local Government Board to protect from further demolition one of the most interesting monuments of antiquity which the United Kingdom possesses. In the name of our Gracious King, in the name of our learned societies, and in the name of this mighty nation, let me earnestly entreat the Town Council, as loyal citizens and trustees of our historical treasures, to consider this burning question in a magnanimous spirit, and, gracefully complying with the national wish, resolve to preserve every inch of Berwick's Edwardian fortifications intact to the kingdom and to posterity.

I much regret to find myself in opposition to the responsible rulers of the town, who are *de jure* custodians of the fortifications; but I crave leave as vicar of the parish to make this respectful protest, as an *ex-officio* custodian of monuments of national historical interest situated in St. Mary's parish.

I have entered into this conflict in no light or frivolous spirit, but am actuated by the highest public motives, and I deeply regret that I have not hitherto been able to induce our civic rulers to take a patriotic pride in our historical remains, which every loyal citizen should be proud to preserve as a duty owed to Berwick's fair fame and national celebrity, handing them down intact as a rich legacy to future generations.

At the Business Meeting of the R.I.B.A. on Monday, December 4, Mr. Wm. Woodward will open an informal discussion on the fire clauses of the London Building Act.

ENGLISH TEXT-BOOKS IN AUSTRALIA.

At a meeting of the Royal Victorian Institute of Architects, Mr. Robert J. Haddon referred to the text-books in general use for building construction. One thing in particular struck readers of architectural books in Australia, and that was that 70 per cent. of the matter and illustrations of these books did not apply to local requirements of Australian practice. In the course of some considerable experience in going through architectural books and selecting them for libraries, and in other ways, he became seized of this fact. Even if they went round and looked at the illustrations before them on the table, they might see at once there was very little they could take and use here, and that fact led up to a few thoughts about the need of books for Australia. Let them take an American house. Was it not apparent that the designers were thinking of the snow and of the warming of that house? The most essential requirement was that of warming, and also of providing against the intense sunlight. In England they had Briggs writing about architectural designs for houses, and they found that very little of the work therein described could really be applied to Australia. He (the speaker) desired specially to speak about the books dealing with construction. There was no doubt that a field existed for writers on construction applicable to work in Australia. So far there was only one writer who had attempted to put in book form his ideas of building construction applied to Australian conditions. He was a Sydney architect, Mr. Nangle. His book had some virtue in it. It was a little book used by some of their young men. It had grown out of the needs of technical education. In lecturing at the Sydney Technical College, he (Mr. Nangle) found he had to localise a great deal of the instruction given, and he therefore gathered together a number of notes necessary for work in Australia. Then he put these notes into book form, and, being fairly modest, he did not boast to have done a great thing. As population increased and the demand grew, other men would follow and produce still better work.

They were all cognisant of the fact that technical books had a very limited circulation. For a man to make a technical book financially a success, it was necessary to circulate it in a large community. There was not a sufficiently large population in Australia to warrant the publication of a book of the character really required. They all felt (those engaged in teaching, Mr. John Little, Mr. A. M. Henderson and himself) the need there was for some text-books on construction, with more local application. Directly they turned to Rivington, Mitchell and others they found it was necessary to cover to some extent a great deal of unnecessary ground. Of course it must be understood that nothing in a man's training need be wasted. They learned a great many things at school which they had never really any actual need for, but the training developed their brains and thought, and generally extended their mental scope. They longed in these hasty days, when there was such a demand for technical teaching, for books to which they could go directly for what they wanted, unconfused by anything else. These were the sort of text-books they required.

Referring briefly to the different books in use—Rivington's, Mitchell's and Riley's—they were all compiled from the old masters like Tredgold and others. The tendency of modern books was to boil down the works of the older men, and to pack into a small book the knowledge of those who had written in the great old volumes. He would place a few practical jottings of his own before them. As a first great difficulty, timber in construction. A great number of the tables setting forth what could be done with various timbers were of no use here at all. In England Baltic timbers were dealt with so largely that when they came to oregon, or our own woods—pines, blackwoods and woods of other States (the jarrah of Western Australia, for example)—it was necessary to have or to gather fresh data, and very valuable work has been done in compiling these data by university men and those who had leisure to do that sort of work. It might be instructive to briefly review under a few heads some differences between English and Australian requirements.

Roof Coverings.—Slates, mostly imported, were common to America, England and Australia. We never saw a roof covered with flat tiles here. In England there was nothing else. He never saw a Marseilles tile till he came to Australia. The old pantile was to be seen in every book of design in England. Seventy per cent. of buildings in Australia were covered with corrugated iron. In England one never saw anything but a shed covered with corrugated iron. Certainly old Tredgold had never seen anything of the sort when he worked out his weights for ordinary roof coverings, his data applying to tiles and slates being of no use when dealing with modern galvanised iron roofing.

Gutters.—In the text-books nearly all the gutters described were for lead; sometimes for zinc. Here zinc was scarcely ever used, rarely lead, and nearly always sheet-iron. Here again, the construction was altogether different. What was possible with lead was not possible with sheet-iron. He would pass over the question of climate. High-pitched roofs were necessary where there was snow, and gutters must be arranged for snow boards. Points of that kind absolutely need not be considered here. They also found in the old text-books of Mediæval trades things very good in their way, and they would not like to say anything against construction without screws and wire nails, but wedged and pinned as in the good old days of oak. Those ideals had come down through all the writers on construction. Their influence could be seen in Tredgold and others, and, in a limited sense, in the modern text-books. Those ideals were prior to the invention of the common screw, which was altogether a modern invention. "Nettlefolds" was comparatively a modern firm. In some modern furniture, however, a revival of Mediæval work could be seen in putting together without screws and without nails.

Sanitary Systems.—What great and serious changes were found here. They went to their books to search, and at once had to reject 70 per cent. of the data, because they saw things standing in Melbourne which would not stand for one day in London, and certainly not in Scotland, in cold weather. They put traps on walls, and put many other things outside which, if they had severe frosts, the whole sanitary work of the house would absolutely break down; the water in the traps would freeze, and bursting pipes would be the result. These showed the differences between the text-books which they had to read and the things they had to do in Australia.

Bricks.—They often found in text-books elaborate descriptions of brick-making. They found also a great deal quite foreign to any kind of brickwork in Australia, where bricks were made of a different, and to a certain extent a limited, material. The Australian brick was a hard brick. In England many of the bricks could be rubbed, cut, and even carved, and the text-books described the practical processes of making bricks. Those writers would be surprised at the material out of which Melbourne bricks were made and how simply the processes fitted together.

Local Peculiarities.—Mr. Tompkins would remember the hurricanes they had to contend with in West Australia, and which were unknown in England. In parts of the west there were systems of anchoring roofs down by throwing cables over them and pinning them down. What with willy-willys and hurricanes townships were often levelled with the ground, and it was imperative to put up buildings capable of withstanding these unusual, but natural, conditions.

Stone.—Here, again, was a suggested field of difference in the stones they read about in text-books and those they used. A man could only write about the stones which he knew. In the English works on construction it could be seen how the writers were influenced by certain Parliamentary papers and other data, made officially available in regard to English and continental stones. An English Commission was once appointed to examine all the available stones for the British Houses of Parliament. The report of that Commission was dipped into by every man who wanted to build in stone in England.

The smoke and fumes of great cities we knew but little of here, and, not having much frost, we were able to put up stone buildings which would stand very well in dry climates like Egypt, and which stood fairly well in Australia. In the damper climates, however, of many modern cities, such building stones would decay in a few years.

He hoped that in the "Journal" of their own Institute, and that of the Institute of Architects of New South Wales and other Institutes, there would be found permanent records of valuable papers given by men of experience in reference to construction. In years to come men would be found to write books, and the population would be large enough to absorb books, on the subject. Such journals were most helpful in making permanent records of data which in the usual way would be lost.

Books on construction were perhaps weaker as a class than books dealing with design. The more a man looked at the work of other men, the more he learned of the ethical part of his own work. It was impossible to look at foreign work without being better for it. In showing that certain men, under certain conditions, were true to their art, consisted the ethical value of such books as compared with scientific ones. In the future he hoped, however, that men would be found to write upon Australian architecture for Australians. He thought it was to be regretted that, as a rule, the writers of books were not for the most part practical men engaged in practical work. The man who had a large practice had not time to give to the writing of books. The authors were too often men who sat in their arm-chairs, therefore our books remained unpractical. Even that dear old Ruskin, if he had been in actual practice, fighting the fight of the world, would not have said the many things he had to say; and so with construction. They would like, however, to have the thoughts of the men who were in the fight. They, of all others, would be the most valuable writers of books.

TESSERÆ.

Æsthetic Value of Environment.

THERE have been Platonists without Plato, and a kind of traditional Platonism in the world independent of, yet true in spirit to, the Platonism of the Platonic dialogues. Now such a piece of traditional Platonism we find in the hypothesis of some close connection between what may be called the æsthetic qualities of the world about us and the formation of moral character between æsthetics and ethics. Wherever people have been inclined to lay stress on the colouring, for instance, cheerful or otherwise, of the walls of the rooms where children learn to read, as though that had something to do with the colouring of their minds; on the possible moral effect of the beautiful ancient buildings of some of our own schools and colleges; on the building of character in any way through the eye and ear—there the spirit of Plato has been understood to be, and rightly, even by those who have perhaps never read Plato's "Republic," in which, however, we do find the connection between moral character and matters of poetry and art strongly asserted. Men's souls are, according to Plato's view, the creatures of what men see and hear. What would probably be found in a limited number only of sensitive people, a constant susceptibility to the aspects and other sensible qualities of things and persons, to the element of expression of form in them and their movements, to phenomena as such—this susceptibility Plato supposes in men generally. It is not so much the matter of a work of art, what is conveyed in and by colour and form and sound, that tells upon us educationally—the subject, for instance, developed by the words and scenery of a play—as the form and its qualities, concision, simplicity, rhythm, or contrariwise, abundance, variety, discord. Such æsthetic qualities, by what we might call in logical phrase a derivation into another kind of matter, transform themselves, in the temper of the patient, the hearer or spectator, into terms of ethics, into the sphere of the desires and the will, of the moral taste, engendering, nursing there strictly moral effects, such conditions of sentiment and the will as Plato requires in his City of the Perfect, or quite the opposite, but hardly in any case in different conditions. Imitation—it enters into the very fastnesses of character, and we, our souls, ourselves, are for ever imitating what we see and hear, the forms, the sounds which haunt our memories, our imagination. We imitate not only if we play a part on the stage, but when we sit as spectators, while our thoughts follow the acting of another; when we read Homer and put ourselves lightly, fluently, into the place of those he describes; we imitate unconsciously the line and colour of the walls around us, the trees by the wayside, the animals we pet or make use of, the very dress we wear.

Enamelling on Glass.

The art of enamelling on glass differs little from the well-known art of enamelling on other substances. The colouring materials (which are exclusively metallic) are prepared by being ground up with a flux, that is, a very fusible glass, composed of silex, flint-glass, lead and borax; the colour with its flux is then mixed with volatile oil and laid on with the brush. The pane of glass thus enamelled is then exposed to a dull red heat, just sufficient to soften and unite together the particles of the flux, by which means the colour is perfectly fixed on the glass. Treated in this way, gold yields a purple, gold and silver mixed a rose colour, iron a brick-red, cobalt a blue; mixtures of iron, copper and manganese, brown and black. It appears by a boast of Suger, abbot of St. Denis, which has been preserved, that the ancient glass-painters pretended to employ sapphires among their materials; hence perhaps the origin of the term zaffres, under which the oxide of cobalt is still known in commerce. Copper, which yields the green in common enamel painting, is not found to produce a fine colour when applied in the same way to glass, and viewed by transmitted light; for a green therefore recourse is often had to glass coloured blue on one side and yellow on the other. To obtain a yellow, silver is employed, which, either in the metallic or in any other form, possesses the singular property of imparting a transparent stain when exposed to a low red heat in contact with glass. This stain is either yellow, orange, or red, according to circumstances. For this purpose no flux is used; the prepared silver is merely ground up with ochre or clay, and applied in a thick layer upon the glass. When removed from the furnace the silver is found not at all adhering to the glass; it is easily scraped off, leaving a transparent stain, which penetrates to a certain depth. If a large proportion of ochre has been employed the stain is yellow; if a small proportion it is orange-coloured; and by repeated exposure to the fire, without any additional colouring matter, the orange may be converted into red. This conversion of orange into red is a matter of much nicety, in which experience only can insure success. Till within a few years this was the only bright red in use among modern glass-painters, and though the best specimens certainly produce a fine effect, yet it will seldom bear comparison with the red employed in such profusion by the old artists.

Early Christian Churches

What was the origin and character of the artistic movement of the days after Constantine? Some notices in the literature of the time, as well as existing remains, enable us to answer the question. It was an age of the utmost architectural activity; one of the great building ages of the world. The emperors from Constantine onwards vied with each other in erecting magnificent temples for the Christian faith. Many of these remain to this day, though often stripped of their splendid adornments. We can still wonder at the colossal proportions of the restored basilica of St. Paul's Without the Walls at Rome, with its five aisles, its eighty columns, and its 400 feet in length; or admire in a smaller but well-preserved basilica, like St. Sabina on the Aventine, the beautiful proportions and the air of convenience and fitness of the churches of this age. Or, again, we can study the system of circular and polygonal churches, with their bold cupolas and ingenious divisions of space, of which Sta Sophia at Constantinople is the masterpiece, and San Vitale at Ravenna and the stately and beautiful San Lorenzo at Milan are more accessible and better-known examples. Could we see before us now the interior of the church of Sta Sophia as it left the hands of the architects of Justinian, we should have before us perhaps the most beautiful and splendidly adorned temple ever raised to the service of religion. These numerous and extensive buildings must, of course, have led to a great demand for decorative art of the finest kind. Literary notices tell us that provision was made for supplying it by the grant of special privileges to artists. A law of Constantine states that "leisure is required for learning the arts, and if this is granted, artists will become more skilful and will teach their sons their profession;" and proceeds to announce certain exemptions in favour of artists, first architects, then painters, sculptors and mosaic workers. So popular did this profession become that we hear from a writer of the fourth century that in his time the young men forsook the schools of the rhetoricians and philosophers and streamed in crowds to the studios of the painters. If we ask what models were set before these students we find the answer, so far as the school of Constantine is concerned, in the fact that Constantine collected together in his new capital a vast number of the finest statues of antiquity out of Athens and the other Greek cities, and the influence of these fine models is unmistakable in the mosaics of the time.

Colours of the Ancients.

Of the various modes of painting, consisting of oil, fresco, water-colours both body and transparent, mosaic, enamel, glass, porcelain, tapestry and what the French call pastel and camaieux, there is but the first which is peculiar to modern practice, although even with regard to it there is reason to suspect that the varnish used by Apelles and his successors was not very different from oil-painting.

Until the seventh century before the Christian era the Greeks seem to have been confined to the simple operation of designing with only one colour, to which the colour of the ground formed a relief. This was called by them monochromatic, and is styled camaieux by the French. Some of the Egyptian hieroglyphics are executed in this manner; the Etruscan vases also furnish abundant examples of it, consisting of a simple coloured background of black or orange upon which the figures are drawn in contrast with the ground colour. When the ancients began to introduce more colours into their works it was looked upon as degrading the art, and was confined at least to the use of the very few, in which case it was called polychromatic. We find Pliny and Cicero lamenting the corruption of taste in their day by the introduction of a gaudy mode of painting, abounding in variety of colours more than grace and purity of taste. Sir Humphry Davy in a valuable memoir upon the colours used in the paintings of the ancients considers the Greek and Roman painters to have been possessed of almost all the colours used by the great artists of the Italian school at the period of the revival of arts in Italy, with the addition of two not known to the latter, namely, the Egyptian or Vestorian azure and the Tyrian or marine purple. It is the opinion of Sir Humphry that the ancient painters, like the best masters of the Roman and Venetian schools, were sparing in the use of the more florid colours, and produced their effects like them by contrast and tone, admitting little more than the red and yellow ochres, black and white, in their best works; but gold was sometimes introduced, as in the early Italian school. The colours enumerated by Pliny as in use among the ancients amount to nine: first, sinopis pontica, a sort of ochre; second, parætonion, a white colour, found on the shores of Egypt; third, purpurissum, a deep red; fourth, indicus colour, a fine blue; fifth, armenium; sixth, cinnabar; seventh, minium; eighth, auripigmentum, a fine green; and ninth, atramentum. This list shows that the ancients were not ignorant of our principal colours, and might by combination have produced almost every tint.

GENERAL.

Mr. W. Q. Orchardson, R.A., has been elected president of the Society of Portrait-Painters. The exhibition of the Society now on view at the New Gallery will remain open until after Christmas.

The Institute of Oil-Painters have elected the following members:—Messrs. N. H. J. Baird, Ernest Boord, Frank Craig, William Eden, Val Havers, Harold Knight, Charles M. Padday and L. Campbell Taylor.

The Awards have been made in connection with the competition for the erection of a new City Hall at Perth, or the reconstruction of the present building. The premium winners are:—For new hall—(1) J. Wallace Archer, Edinburgh, Plan No. 9; (2) Thomson & Robertson, Brighton, Plan 14; and (3) Hendry & M'Lennan, Edinburgh, Plan 26. Reconstruction premium winners:—(1) J. Sibbald, Dundee, Plan 30; (2) Meuart & Jarvie, Perth, Plan 20; and (3) Johns & Cummings, Westminster, Plan 12. For the new City Hall the premiums are 50, 30 and 20 guineas, and for the reconstruction 30, 20 and 10 guineas.

Mrs. Ryle, wife of the Bishop of Winchester, has addressed a circular letter to the wives of all the incumbents in the diocese asking them to take steps to organise a house-to-house collection in their respective parishes in connection with the sum of 20,000*l.* required for the preservation of the cathedral. It is suggested that the sums asked for should be from 1*d.* upwards. She adds that the occasion might be utilised as a means of interesting more women in the history of the Church.

The Leeds Memorial to Queen Victoria, which has been erected in front of the town hall, was unveiled on Monday. The monument consists of a bronze statue of the late Queen seated, wearing a crown and royal robes, and holding in one hand the orb and in the other the sceptre of State. The statue, which is 9 feet 6½ inches high, stands on a massive square stone base, which rises to a height of 20 feet. The front of the base bears the Royal arms and the inscription, "Victoria, 1837-1901." At each side of the base are bronze figures, each 7 feet 6½ inches high, representing Peace and Industry. The sculptor is Mr. G. J. Frampton, R.A.

An Ordinary General Meeting of the Quantity Surveyors' Association will be held on Wednesday, December 6, in "The Commodore's room," Holborn Restaurant, at 7 P.M., when a paper by Mr. F. B. Hollis, entitled "Some Thoughts on the Quantity Surveyor and his Relation to the Building-Owner, the Architect and the Builder," will be read.

A Representative Exhibition of the collected works of the late Arthur Melville will be held during the months of January and February in the Institute Galleries, Piccadilly.

The Council of the Sheffield University Court of Governors, in their annual report, in referring to the new buildings which were recently opened, congratulate their architects, Messrs. Gibbs & Flockton, on the conspicuous success of their efforts, and desire especially to thank Mr. Gibbs for the great care and attention he has unremittingly bestowed during the progress of the work.

The Gorton Education Committee, in view of the fact that there are over 300 children at present without school places at Gorton, and that the district is rapidly increasing in population, have decided to proceed at once with the erection of a permanent school in the High Bank district, and invite competitive designs.

The Birmingham City Council on Tuesday approved of the report of the general purposes committee for the erection of additional municipal offices and art gallery at a cost of about 150,000*l.* The designs are to be obtained by competition. The first will be of sketch plans from which six to ten will be selected, and the architects will be invited to take part in a second competition, each receiving an honorarium of 100 guineas.

Mr. Pittendrigh Macgillivray, R.S.A., has completed the model of the statue of John Knox which is to be placed in the Albany aisle of St. Giles's Cathedral, Edinburgh. It is expected that the memorial will be unveiled next May.

The Rathkeale Rural District Council are about to erect 128 new cottages. Already 272 have been erected, making 400 in the district.

The Committee of the National Art Collections Fund appeal for public subscriptions towards the purchase of the Rokeby Velasquez. It is said that the picture is held for the present, by arrangement with its owners, until the result of this appeal shall show whether it is possible to save it for the nation. The price will be considerably less than the sums which have already been offered from abroad.

The Glasgow Corporation have remitted to the fire brigade committee, in co-operation with the building regulations committee, to consider the whole question of the loss of life in the Watson Street lodging-house, and to report whether any action, any additional regulations should be framed, or any legislation obtained that might be suggested by this unfortunate experience.

Mr. John Weller, architect, of Wolverhampton, has died at the age of about seventy-five years. He was architect and surveyor to the Wolverhampton and District Permanent Building Society, and had designed many residential properties in the borough and adjoining districts. One of the last pieces of work for which he was responsible was the Memorial Hall at Burchill Green.

A Meeting of American painters and sculptors was held in New York on Saturday for the purpose of organising an agitation against the heavy customs tariff on the importation of foreign works of art.

Mr. A. Alban Scott will read a paper at the meeting of the Institute of Sanitary Engineers on Wednesday next on "The Planning and Construction of Factory Buildings, with special regard to the application of Armoured Concrete." The annual dinner of the Society will be held on the 13th inst.

A Paper will be read at the meeting of the Liverpool Architectural Society on Monday next on "Intention in Ornament," by Mr. E. A. Rickards.

The Tariff Commission sitting at Ontario, Canada, considered last week the evidence of bridge-builders. According to the *Glasgow Herald*, they stated that the anti-dumping clause had been throwing business to Scotland, but development in that direction was greatly hindered by the difficulty of getting as quick delivery as from Pittsburg and by the regulations of the steamship companies restricting the length of structural steel that they would carry. The difficulty was so great, the bridge-builders stated, that they preferred to import Pittsburg steel and pay the dumping duty.

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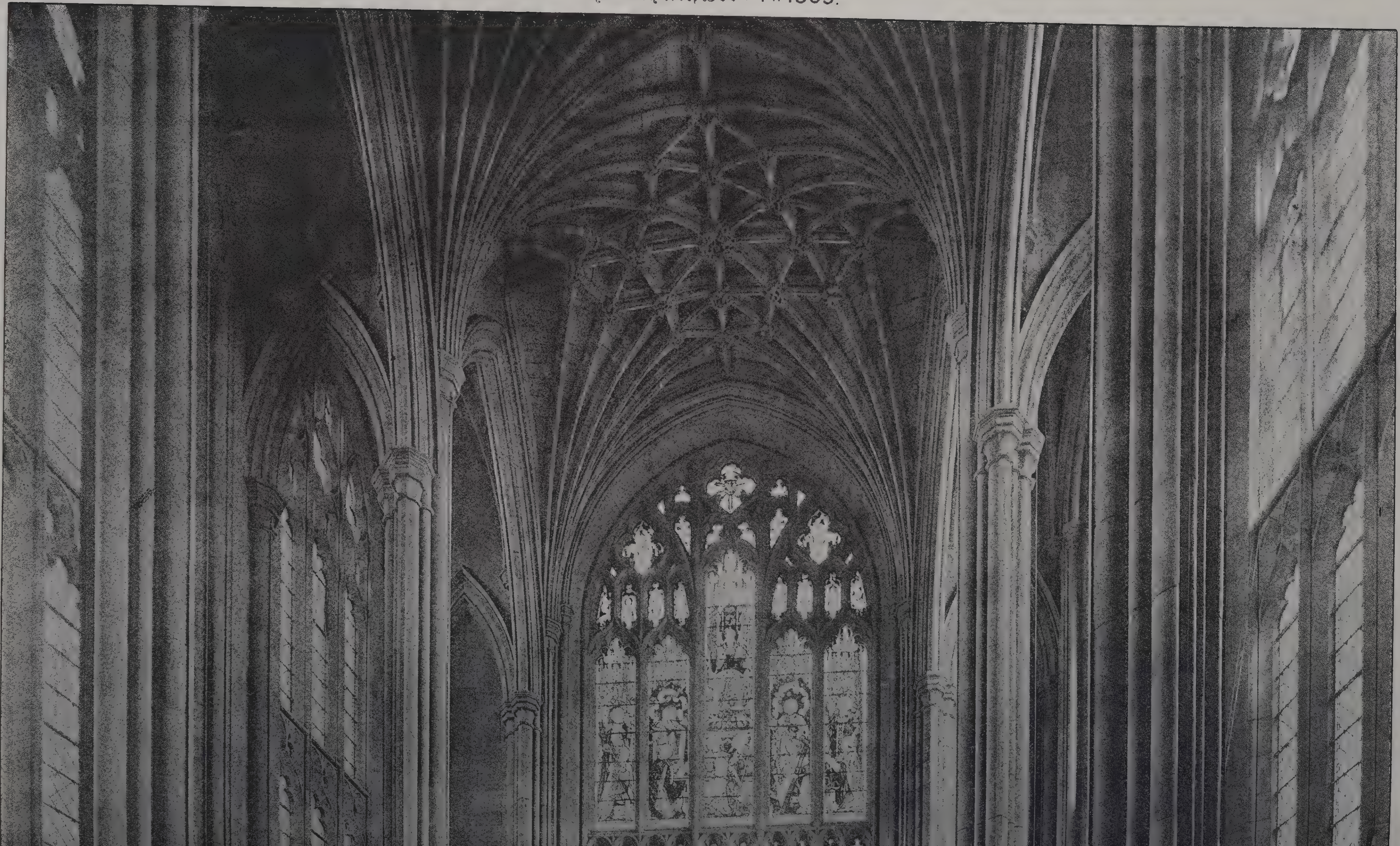

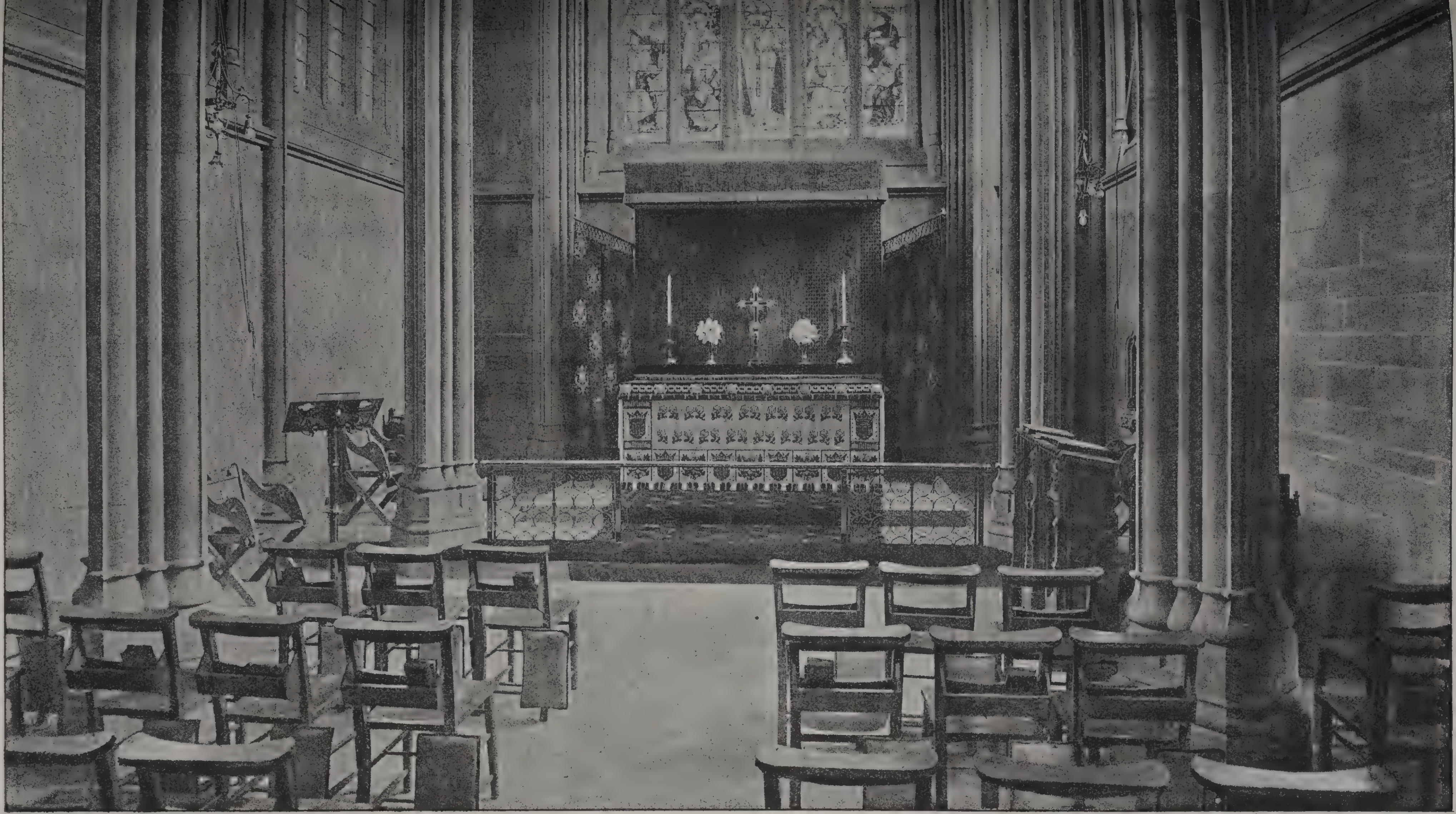

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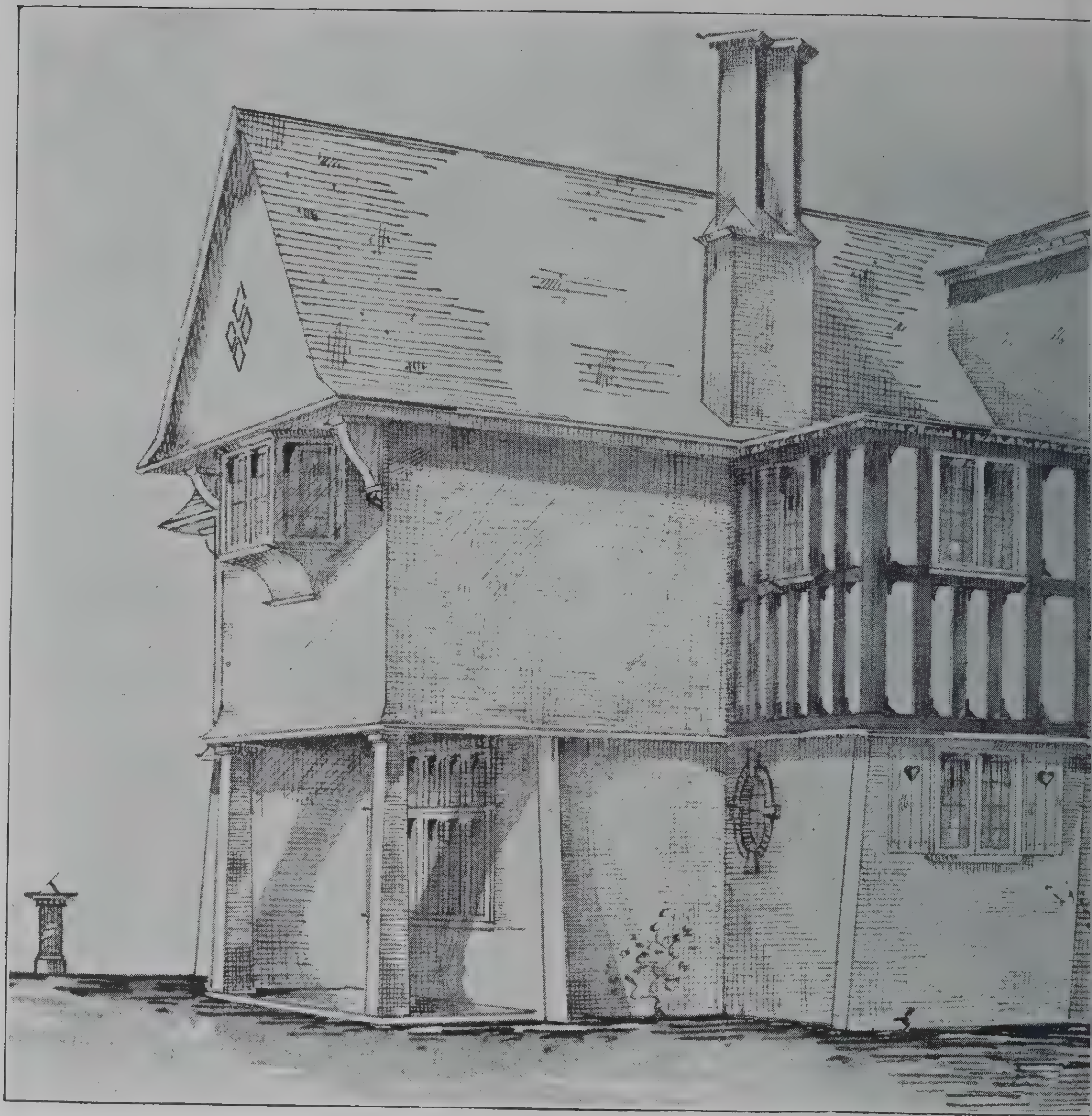

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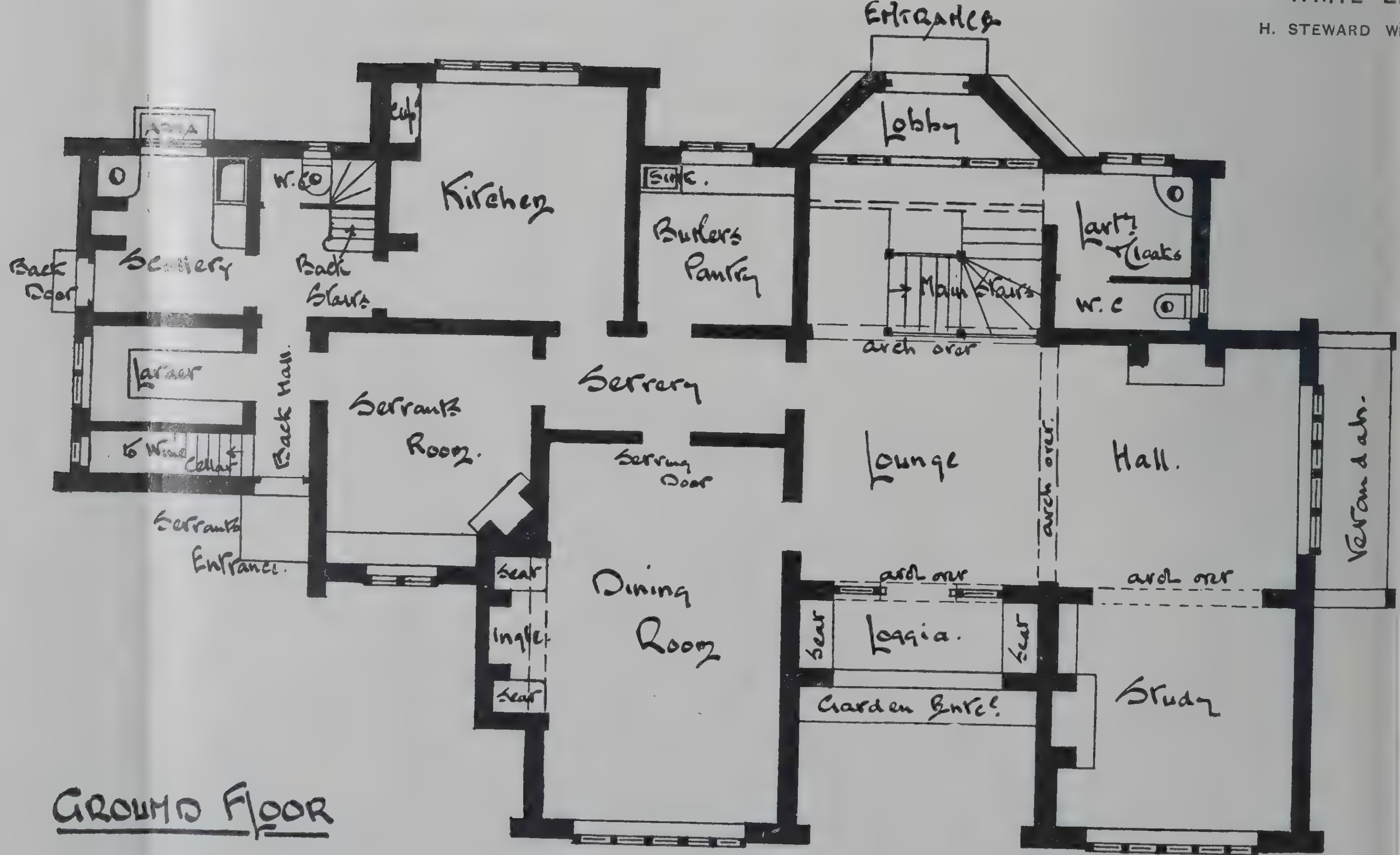

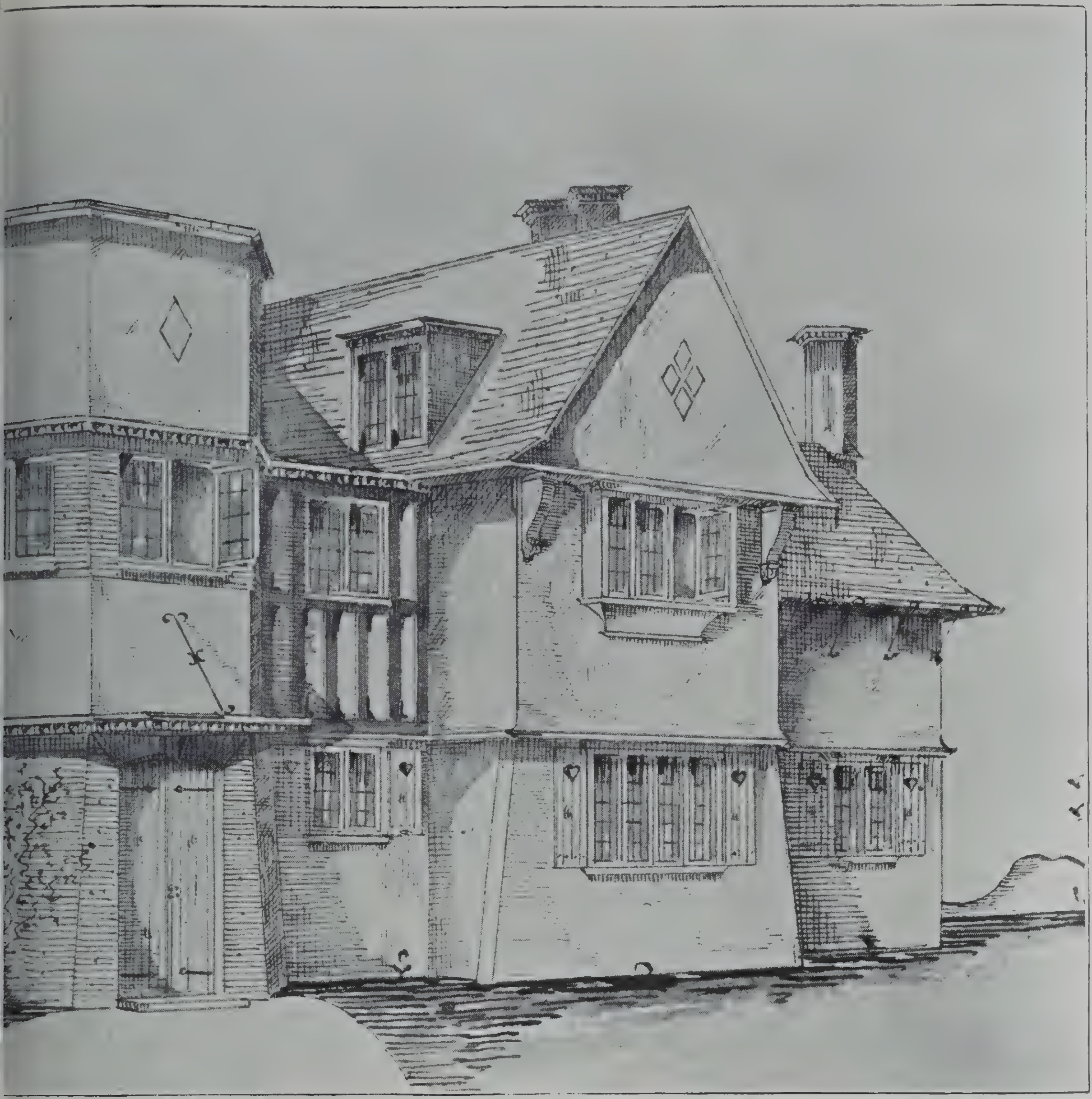

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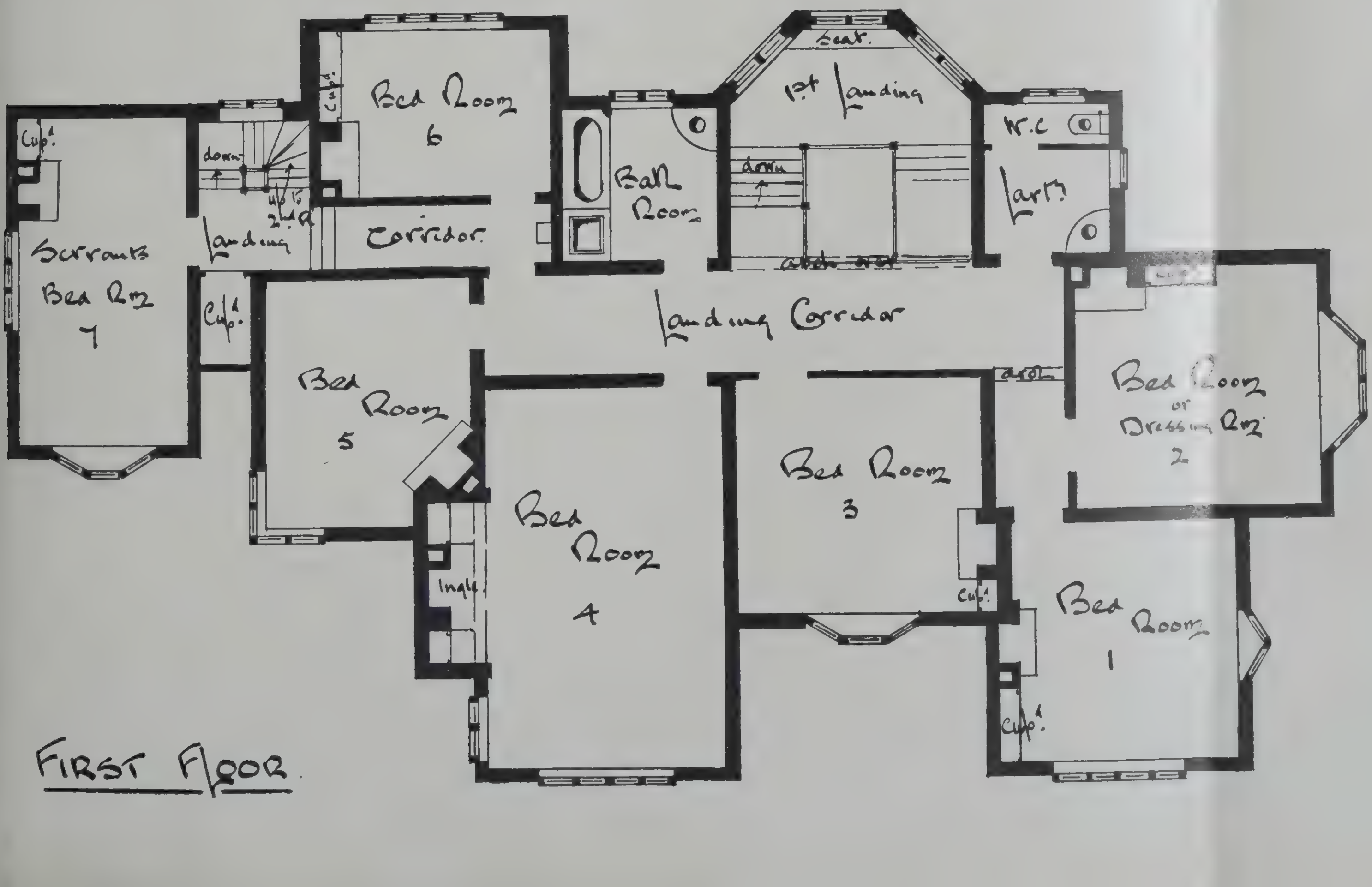
F.S.A., Architect.



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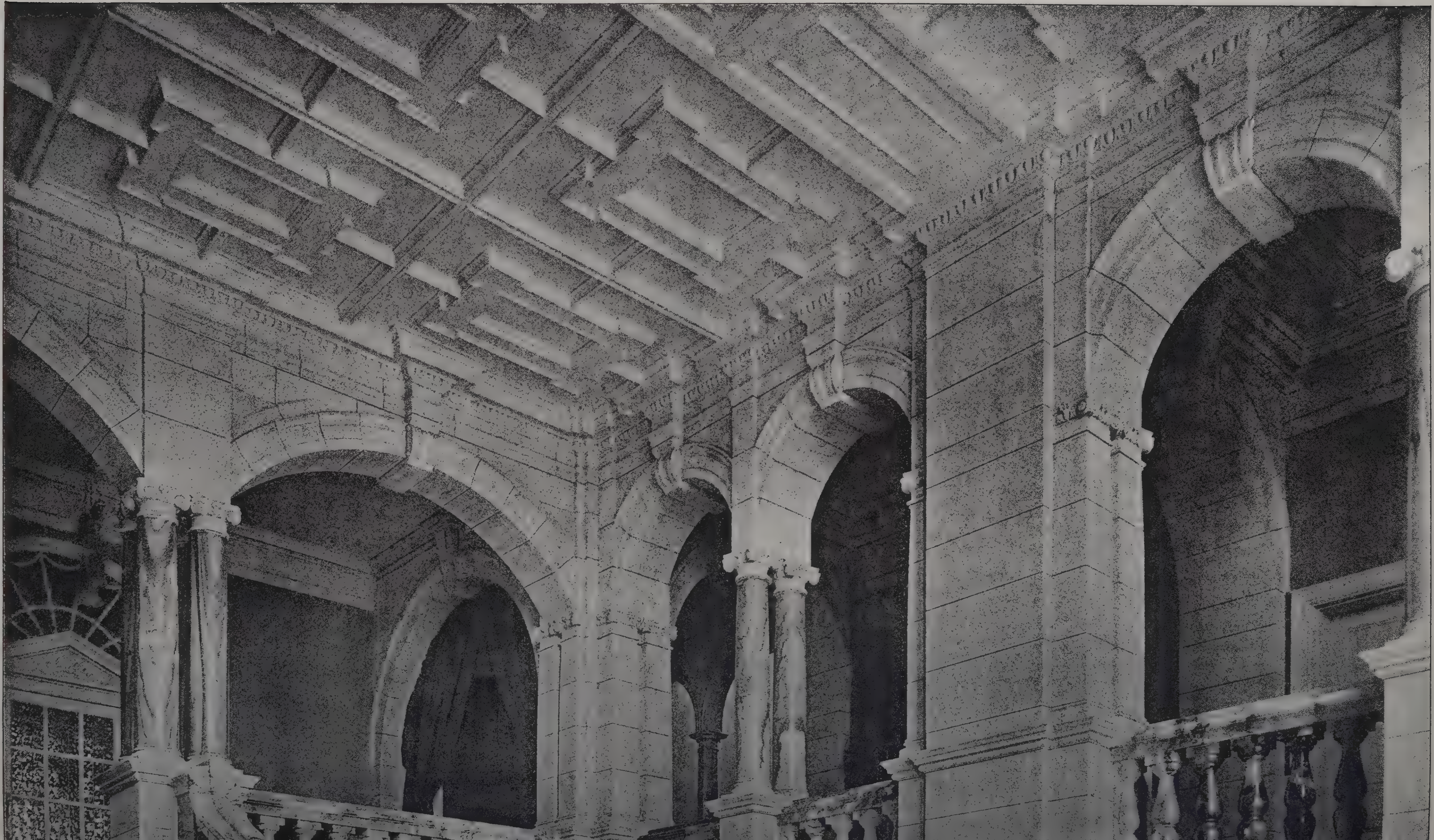

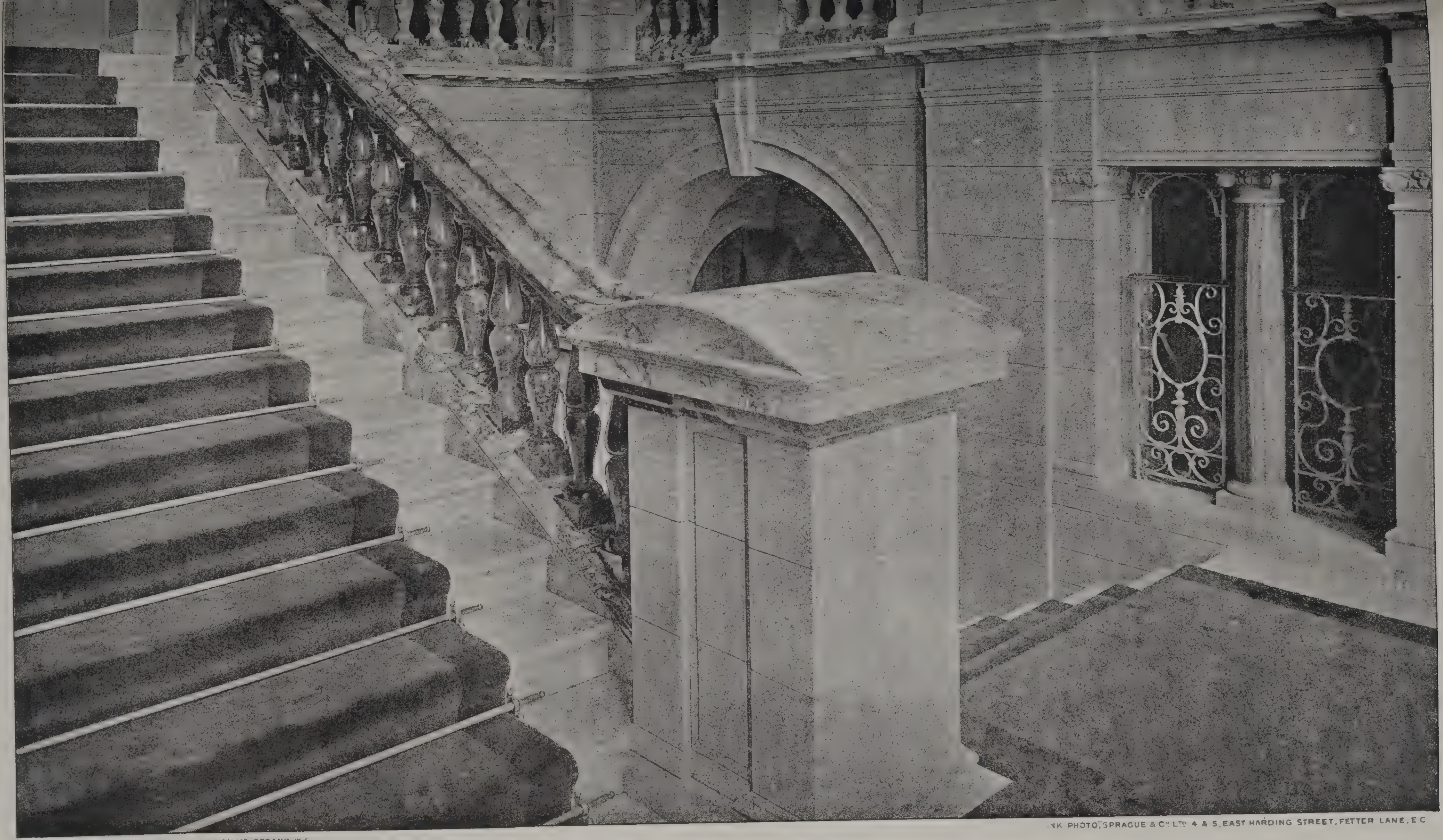

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MOUNT MELVILLE, ST. ANDREW'S, N.B.: PRINCIPAL STAIRCASE.

PAUL WATERHOUSE, F.R.I.B.A., Architect.

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The Architect.

THE WEEK.

If the collapse of the roof of the terminus at Charing Cross of the South-Eastern and Chatham Railway, which occurred on Tuesday, could have been accomplished without loss of life and the maiming of several workmen, few people except the shareholders would regret the loss. Since 1860 it has been an eyesore which has diminished the interest of the new buildings in the neighbourhood. The roof has a span of about 165 feet and a length of 700 feet. It is divided into thirteen bays, two of which at the end nearest the Thames succumbed on Tuesday. As it was erected under the superintendence of Sir John Hawkshaw, and has not needed any strengthening of the parts or other alteration, there can be no question that the workmanship was perfect. Hawkshaw was always considered one of the safest of engineers, and he avoided everything in which there was the least risk. On Tuesday the roof was being reglazed and cleaned. But that work could have had no influence in diminishing the strength of the structure. One of the tie-rods broke, but owing to what cause has yet to be discovered. Probably the origin was the settlement of one of the walls, but whether that was the result of excavations in the neighbourhood remains to be seen. Besides the injury to the station, a large part of the ironwork as well as of the western wall fell in a mass upon the adjoining Avenue Theatre. The latter building never was considered to possess extraordinary strength, and at the present time Messrs. Patman & Fotheringham have it in hand under the direction of Mr. Detmar Blow. Although there were about 100 men employed at the time, fortunately few were injured. The theatre was to be opened in January, and if the roof collapsed during one of the performances the disaster which was certain to follow would be appalling. The Building Act committee have ordered the station to be observed as a dangerous structure.

A report has been prepared by Mr. Gamble, one of the officers of the London Fire Brigade, concerning the fire which occurred in the Glasgow common lodging-house. In it he expresses a doubt as to whether the actual cause of the fire will ever be determined. But he considers it arose through the careless use of candles or smoking. He draws the following conclusions from his investigation :—That a well-constructed stone staircase enclosed in brick walls became a source of danger by reason of the position in which it was placed, and also through its being the only means of escape, and not being cut off from dormitories by smoke-proof doors. That the "deafening," although only 1½ inches in thickness, prevented the fire passing through the floors, and that the small portion of lath and plaster partition in the attic kept the fire in check for some time. That a building, however substantially constructed, becomes absolutely dangerous if the internal fittings be of wood or other combustible material. That lodgers should never be so securely locked as to prevent their readily getting away in case of danger. The public health committee of the London County Council are not indifferent to the catastrophe. They report having, during the last three years, dealt with all the common lodging-houses in London as regards the means of escape in case of fire, and the works which the Council have considered necessary have in nearly all cases now been completed. In the preparation of these requirements the architect and the chief officer of the London Fire Brigade have made inspections of the houses. There are at the present time 281 houses accommodating 24,511 men, 44 houses accommodating 2,303 women and 13 houses with accommodation for 310 married couples. The general practice of the committee has been to insist upon an alternative means of escape in case of fire being provided from rooms licensed for lodgers, and this has necessitated the construction of new staircases in a number of the larger houses and of external balconies and step-ladders in others. In several instances it has been possible to obtain the alternative means of escape by making openings between adjoining houses. In cases in which the provision of means of escape by the roof has been allowed guardrails have been fixed.

The Board of Education in the report for 1904-5 state that among the more important acquisitions for the Victoria and Albert Museum during the year were two marble half-length figures of angels from the dismantled tombs of Bartolommeo Aragazzi, by Michelozzo Michelozzi (completed in 1438); a velvet cope with appliqué work and embroidery German work of the early years of the sixteenth century; a woollen pile carpet, dated 1603; a small cabinet, with figure designs in marquetry, German (Augsburg) work of the late sixteenth century; six panels painted with profile busts in tempera from the castle of San Martino, between Brescia and Mantua, attributed to Bartolommeo Suatdi, called Bramantino; a collection of Italian maiolica drug-vases and jugs of the fourteenth, fifteenth and early sixteenth centuries; a jug of Turkish pottery, with Dutch mounts of silver gilt of the sixteenth century; a collection of one gold and eight silver medals by Thomas and Abraham Simon; and four engraved silver medallions by Simon van de Pass. Among the gifts and bequests for the year may be mentioned a valuable collection of Japanese carvings in ivory and wood, and of needlepoint and pillow lace; two seal matrices of Alberto d'Este, Chirk Castle, a pewter coffin chalice (French work of the fifteenth century), and some specimens of Spanish and Italian tiles and earthenware of the fifteenth and sixteenth centuries; a collection of ancient works of art found at Beni-Hasan during the excavations of 1902-4 and at Ehnasya, Deir-el-Bahari and Behnesa. Further additions were made during the year to the collections already on loan, comprising an important collection of specimens of Græco-Buddhist and Gandhara sculptures, a striped hanging of silk velvet, Italian work of the end of the fifteenth century, and English and Irish silver plate.

The John Evelyn Club for Wimbledon in their second annual report are able to record some successful efforts for the preservation of the character of Wimbledon. Earl Spencer as lord of the manor surrendered his rights in a triangular patch of ground known as "The Village Green," and the lessee of the estate company likewise sacrificed some of his interests. The result is that the outer strip (one-half of the whole) is secured in perpetuity as public ground. The building on the inner portion is confined to three houses of modest height and of an approved design. Trees that would otherwise have been destroyed will be preserved within the inner space. Another success was in dealing with Cæsar's Camp for the views of the Club will be carefully considered. The old trees on the Belvedere estate are also to be preserved. Efforts would also be made to preserve old buildings in places. The report says:—"It would be futile to lament changes which the needs of a constantly-growing community render inevitable. The sad thing is that in many cases no pains have been taken to secure such immortality for the ancient buildings as the pencil or the camera can confer, and that nothing has been done to acquire for preservation as public treasures, characteristic objects belonging to the places destroyed." Mr. T. G. Jackson, R.A., is president of the club, and Mr. Richardson Evans, hon. secretary and treasurer.

HENRY HUGH ARMSTEAD, R.A.

ALTHOUGH Mr. Armstead, who died on Monday night, was one of the artists who was indisposed to be always recalling their existence to the public, yet he must be considered as having done excellent work as a sculptor. Indeed, remembering the difficulties he had to encounter, it might be called remarkable. He was born in 1828. His father was a worker in silver, and he was destined to imitate him. With that object he became one of the earliest students in the School of Design, the classes of which were held in Somerset House.

Anyone who will examine the works in silver which were produced about the time when young Armstead began to practise cannot fail to perceive that there were defects in most of the pieces produced, and by which they were shown to be akin to many other examples of English industry. Generally speaking, the designer or sculptor was treated as if he were no more than an assistant in a shop or an ordinary labourer. His name was never mentioned, and he could not therefore aspire to gain that reputation for originality and excellence which every true artist desires. The fees paid for designs or models were inadequate. The processes of matting, frosting, burnishing, which in the eyes of the manufacturers were supposed to confer importance on the work, were executed by men who had no respect for form and were indifferent to the artist's intentions. Mr. Cotterill, who was exclusively engaged by Messrs. Garrard, was the only artist in those days who was allowed to take credit for his work and to have it carried out in the way he desired.

Henry Armstead distinguished himself in the School of Design, and he had the good sense to realise the advantages of higher studies. Like so many others, he was admitted into the Academy schools, and supplemented it by working from the models in Leigh's and Cary's schools. He was also allowed to assist Baily, the sculptor, whose *Eve at the Fountain* and similar figures are preferable to his memorial statues. Armstead quickly gained a reputation for his work in silver, and he was considered to be the rival and successor of Cotterill. It is not easy to have an exhibition of a sculptor's works, but the Academy might easily arrange for displaying some examples of his early products, which although only intended as racing-cups were often of great beauty. His shields were also interesting, and especially the Outram shield, which is one of the treasures of the South Kensington Museum.

It was a great change from delicate work in precious metals to architectural sculpture. Armstead recognised that in justice to himself he could not longer continue to execute work which was prized more for its weight than for its artistic excellence. He was vigorous in physique, and his strong hands were adapted to carve figures on a large scale. The earliest known work of the class which he carried out was on the exterior of Eatington Hall, on which he represented some of the legends of the Shirley family. Afterwards he was one of the artists employed at the Houses of Parliament. In the Royal Robing-room, which was costly in its adornments, he carved panels illustrative of Arthurian legends. The statues which form part of the reredos at Westminster Abbey are also his work, and will bear comparison for appropriateness with those of the older artists in the building. His work in the Abbey made him familiar to the late Sir George Gilbert Scott, who entrusted him with the large reliefs representing the different quarters of the globe and the statues of statesmen which are to be seen outside the Colonial Office. This was an important commission, and Armstead deserved it, for few men of his ability would at that time have cared to be looked upon as architectural sculptors.

In the preparation of the model for the Albert Memorial, Armstead was of great service to Sir Gilbert Scott. His share of the sculpture was therefore liberal. He produced the bronze statues which typify *Chemistry*, *Astronomy*, *Medicine* and *Rhetoric*. The whole of the sculpture of the podium, comprising 169 figures, was divided between Birnie Philip and Armstead. We have recently published the entire frieze, and it will be remembered that the representative painters, poets and musicians were undertaken by Armstead. He was able to arrange his figures in a manner that displayed composition. In the centre of one side he had a group showing Homer playing on his lyre, while Dante and Shakespeare are seated below him as supporters. The composers outnumbered the poets, owing probably to the greater interest which the Prince Consort exhibited towards music. Among the painters Raphael was enthroned, Michel Angelo and Da Vinci standing near him. The podium displays more subserviency to architectural requirements than the large groups, for up to the present the figures have not been surpassed by any work in relief produced in this country. Armstead also prepared the design for that section of the mosaic frieze illustrative of applied mechanics which adorns the Albert Hall opposite the Memorial. His reliefs gained him his Associateship in the Royal Academy.

Another interesting work by Armstead is the fountain in King's College, Cambridge, which shows his competence in a different class of work. It was also fitting that the statue of G. E. Street which is in the central hall of the Law Courts should be entrusted to Armstead. The only public statue which can be credited to him is one of Lieutenant Waghorn, which is at Chatham, and which is suggestive by its action of the pioneer of the overland route. It is strange that after so remarkable a work his skill was not more often sought by memorial committees. Memorials in churches by him are numerous. An interesting one consisted of statues of the Evangelists and the Good Shepherd for Aberavon Church. In Warrington Church is a reclining figure of Lord Winmarleigh, better known as Mr. J. W. Patten. Another commemorates Frederick Walker, A.R.A., and is in Cookham Church. In the Guards Chapel is a work representative of the *Obedience of Joshua* by him, and in Hythe Church, Kent, the *Entombment* is treated as a reredos. As he could work well on a small scale he executed several medals and medallions. His busts were numerous. Indeed, it can be said that he tried his hand in almost every department of sculpture, and always with success. His *Remorse* was purchased out of the Chantrey Bequest.

In 1851 Armstead began to exhibit in the Royal Academy, and he continued until last year. His first work was *Satan Beguiling Eve*. His last was a bust of Sir Henry Cotton. The contrast between the two is an apt indication of a British sculptor's career. He may begin with poetry and the exercise of his imagination, but he is sure to end with portraiture and realism. Armstead could be considered as one of the last representatives of the old school of sculpture, in which it was found that poetic or imaginative subjects were not of much avail. The sportsmen who gained the silver work of his early days were not likely to comprehend a fanciful treatment of a subject, or anything which would not have more or less reference to the particular event. The French sculptors of prizes are in a happier position. Then in his architectural work it was also necessary to be what is usually called practical. Figures of *Astronomy*, *Chemistry*, *Philosophy* and *Religion* were to be of a kind which every passer-by could recognise at a glance. The fine figures on the Albert Memorial podium had their names inscribed under them, and it was necessary to have not only correct portraits wherever available, but correct costumes. Such details as buttons and shoe-buckles, hats and caps had to be exactly rendered. But all this accuracy must have made some people imagine that Armstead was a sculptor of costumes and a copyist of portraits. The same could be said of a great many of his most successful predecessors in England. He was faithful to precedent. But in justice to him it must be said that he realised that sculpture was capable to meet other ideas than those which governed him. He was an appreciative critic of work which differed vastly from his own. He was an honest workman, and it must be allowed that his work could be described as essentially English.

FRENCH CATHEDRALS AND CHURCHES.[*]

A NEW edition of Mr. Bumpus's book on the cathedrals and churches of Northern France has been brought out. It deserves to be presented on large paper and with suggestive binding, for in its way it is unique. Descriptions have appeared of the buildings by architects, which are usually restricted to the details of the design, and also records of impressions by visitors, who sometimes condescended to be pleased, but who, as a rule, considered the services unworthy of the attention of any rational Christian. Mr. Bumpus's knowledge of architecture is surprisingly accurate for an amateur. But he does not look on buildings as if they were objects in an archæological museum which were best treated by analysis. Cathedrals and churches were built to fulfil certain definite uses, and it is only by considering closely and reverentially the various services that the fitness of the buildings can be realised. The use of the aisles may not be apparent in an empty church. But if seen when there are processions along them they appear as an excellent arrangement, even when they are as numerous as at Antwerp. In Mr. Bumpus's book we are able to realise the connection between the buildings and the ceremonies of the religion. Mr. Street believed that a fixed plan for churches exercised an influence in preserving ritual. Although the ages of faith are supposed to have vanished, and the people in France have become indifferent to their own religion, it is still possible to realise the purposes for which the buildings were originally raised, when, as Emerson says, the builder, the priest and the people were overpowered by their belief.

At the present time French churches must be regarded with the sort of pity which people feel when they look on victims. The French people have a weakness for destructive experiments, and it is possible to imagine that under certain conditions of politics the churches would be demolished. It was recently proposed to convert them into music halls, and it might be considered preferable to destroy them than to degrade them. When we read, therefore, in Mr. Bumpus's pages that he was almost the only observer present at ceremonies, we must conclude that Catholicism cannot have many ardent defenders should a difficulty arise.

Mr. Bumpus has taken advantage of the new edition to include additional chapters relating to Rouen, Meaux, Mantes and Notre-Dame, Paris. In speaking of Rouen he suggests one danger which awaits the churches, and that is tampering with them at the dictation of what is supposed to be good taste. Rouen, towards the end of the eighteenth century, possessed an elaborate chancel screen, and its removal and the substitution of other forms gives rise to the following observations:—

> At divers times in France there have been four classes of ambonoclasts—the Calvinists, the Pagan, the Revolutionary and the Modern. The Calvinist, if he did not destroy the screen utterly, "brake down all the carved work thereof with axes and hammers." The eighteenth-century Pagan, who belonged to a school which could rifle windows of priceless stained-glass on the plea of greater "cheerfulness," and could substitute altar-pieces in scagliola, "sparkling lustres, paper pots, wax dolls, flounces and furbelows, glass cases, ribands and lace" for the choicest treasures of Pointed art, removed the Mediæval screen altogether, replacing it by a high close one in "a politer taste." Sometimes it took the form of a low wall with iron grilles and gates, such as exists to-day at Auxerre, Tours and St. Etienne, at Caen, and formerly at Troyes and other places, as may be seen from the plates in Chapuy's works or in the nineteen exhaustive folio volumes on the "Antiquities of France," by Taylor and Nodier. The Revolutionary confined his attention to the destruction of what the first two had spared, and the Modern restorer of the Second Empire and the Third Republic, in order to gratify that rage for a vista which was then rampant, made a clean sweep of all screens, Gothic or Classic, and it is to be feared that in too many instances he carried the day.

Mr. Bumpus narrates the vandalism which was tolerated at Notre-Dame, Paris, as well as at Rouen. In 1699 a great portion of the parcloses, stalls and altars were removed, and the lower stages of the apse were Italianised. In 1725 the jubé was demolished, the interior was whitewashed, the gargoyles were supplemented by leaden pipes and the rose window and gable of the southern transept were restored in the manner of that time. Nearly all the stained glass was removed between 1740 and 1760. In order to make room for the stiff buckram canopies which were used for processions, Soufflot removed the central pillar of the great western portal. Over the pillar was a large carving which was destroyed, and then to impart Gothic character an arch was cut out of the tympanum. At the time of the Revolution it would be difficult to describe the whole of the havoc to which the cathedral was subjected. Finally, at the Feast of Reason Mdlle. Maillard, the actress, was made to appear as a goddess and displayed herself on the high altar. The accounts which Mr. Bumpus gives of the conduct of the Revolutionists with regard to the churches are enough to suggest that similar scenes may again be transacted. It could not be said that under Napoleon, Louis XVIII. and Charles X. Notre-Dame was restored to a fitting condition. A pseudo-Classic style was in vogue in the beginning of the nineteenth century, and any works which were undertaken in the cathedral had to be in keeping with it. It was not until 1843, under Lassus and Viollet-le-Duc, that a restoration was commenced in Notre-Dame in which Gothic principles were respected. The works went on until 1863. Under the Commune the cathedral would probably have been destroyed wholly or partially if it were not for the opportune arrival of the troops from Versailles.

When Mr. Bumpus visited Meaux it was undergoing restoration in the French style. He says of the operations:—"The whole of the south side had been mercilessly flayed, and the debased Gothic tracery in the windows of the nave chapels was being transmuted into Geometrical Decorated. Unfortunately the French have been taught to look to the Government as the owner and restorer of all religious buildings, and they do not concern themselves about either the security of the fabrics or, except in a few instances, the character of their fittings and decorations."

When Walter Scott makes Monkbarns say he would meet death for the sake of Gothic, the antiquary was expressing Scott's own thoughts. Whatever may be the defects of the style, it has been more used by poets, romance writers and littérateurs in general than all the varieties of Classic and Renaissance. We can, therefore, understand why Mr. Bumpus should continue to be loyal to the style, and why he endeavours to impart his enthusiasm to others. Gothic churches are records which can easily be read of the aims and struggles, the joys and sorrows of past generations. In Mr. Bumpus's pages we can recall the vivid interests which men of the Monkbarns and Walter Scott class found even in a ruined Gothic building. His volume is therefore not one to be dipped into occasionally, but which can be read from the first page to the last with increasing interest. But with all his admiration, he is not one of those who accepts the belief in the superiority of foreign Gothic. Happily many will agree with him in what he says about the two styles in the following passage:—

"A counterfeit style cannot express a nation's character, and if work is to be in any sense national it must first be real, and however it may be developed to meet the requirements of the day, the ancient architecture of our own country must, at least, form its natural and legitimate basis. In making these remarks I am not abating my admiration for such consecrated thoughts of artists as St. Mary, Stoke Newington; St. James the Less, Westminster; St. Peter's, Vauxhall, and that fine group of north-east London churches; still, at the same time, it is impossible not to express pleasure at the return of their several accomplished authors to our quiet, homely and peaceful English style, for French work, even in its most perfect periods, has a certain tinge of parade and pride that is out of key with true English character, and we perceive in it an adumbration of that all-pervading system which even at this day is so distasteful to the Englishman in France."

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[*] *Summer Holidays among the Glories of Northern France: her Cathedrals and Churches.* By T. Francis Bumpus. New edition. (London: T. B. Bumpus & Son.)

WATTS'S STUDIO LIFE.[*]

It was fortunate for George Frederick Watts when Mrs. Russell Barrington became his neighbour in Kensington. He was a recluse, and for the sake of still greater retirement sometimes wished he could enter a monastery, just as Carlyle in an earlier time longed to be an inmate of a model prison. Mrs. Barrington is an artist, and was therefore competent to discuss questions of practice with Watts, and in many ways to serve a man who was not adapted for collision with the world, by means of her tact and *savoir vivre.* As a writer, Mrs. Barrington was further able to render service to Watts during his life, and after death has enriched the world with an appreciation of him.

It is difficult to reconcile the life of a great artist if justice is to be done to his various qualities. As Shakespeare says, if it were not for their faults virtuous men would become too proud, and an artist who has diverse sympathies therefore seems a puzzle to those who know him but slightly. The housemaids who used to speak of the clumsiness of Reynolds in splashing paints over the floor which were difficult to remove were types of those who attempt to judge an artist's character by considering it only under one aspect. It is possible to meet many people who profess to have known Mr. Watts who describe him as one of the weakest of mortals, and his predilection for the grandiose in art becomes therefore the more remarkable. From the anxiety he sometimes displayed in money matters it might easily be concluded he was a miser. And yet the greater part of his time was passed in painting pictures for which he had resolved to receive no payment. From her long intimacy with Watts, Mrs. Barrington is able to describe the contrasts which his life presented. Much, no doubt, was due to the circumstance that he had the qualities which belong to the Celtic race. As Mrs. Barrington says:—"Watts was a Celt—his genius was Celtic, his instinctive, unconscious genius; but with his conscious brain and eye he worshipped Pheidias. Ruskin once said Watts was a great artist ruined by studying the Greeks. Watts, however, studied the Greeks not merely from the outside, not only because Greek art holds the highest place among the world's art treasures, but because through his Celtic blood also ran a vein in sympathy with the beauty in nature we find accentuated in the work of the Pheidian school." The Celt is not always exact in his estimates. He sometimes believed that weak men are greater than angels, and he sometimes imagined good men to be worse than demons. Whatever he might think of others, Watts had no high opinion of his own abilities, and even to the close of his life he was convinced that he was not possessed of any extraordinary talents. This is seen in the value he set upon his paintings. If Millais got 3,000*l.* or 4,000*l.* for a landscape, he thought he might ask 1,000 guineas for one. Alma-Tadema having received 3,000*l.* for his *Sappho,* he thought his own *Myth of Greek Poetry* was worth from 1,000*l.* to 1,500*l.*, although he was willing to accept 800*l.* or 900*l.* for it. In fact, all through he underrated the importance of his own work. He endeavoured to make up for his supposed lack of ability by the utmost devotion to art. In order to be as isolated as possible, his house at Kensington contained only one bedroom. A visitor had therefore no chance of receiving a night's lodging. When Mr. and Mrs. Barrington visited him in the evening he used to relate the day's events. We are told:—"The most deeply interesting news was naturally how the work got on, how certain experiments with colours had answered, or what pictures had been seen. Watts had what we called 'field-days' with certain pigments. One day it would be the effect of burnt sienna rubbed over a ground of light red; another, the effect of ultramarine over raw umber, or various other combinations of warm or cool tint, always simple colours, generally the earths. How deeply interesting were all these experiments and the different results. I used to try to transmit our precious discoveries to Leighton, but he was somewhat sceptical as to their importance, and would exclaim, 'Oh, *la cuisine,* Mrs. Barrington, *la cuisine!*'" Grounds were the cause of much trouble. He tried *gesso,* but was as unsuccessful as Leighton, for it mixed with his paints. Sometimes he tried canvas unprepared. One head was painted on muslin stretched over canvas. He took care to abstract all the oil he could from the paints, and for that reason his canvases are sometimes suggestive of pastels or frescoes. Brushes, of course, were as unsatisfactory to him as to other men. According to Mrs. Barrington:—"Quite new brushes were almost useless to him. He would wear the outside bristles down on a background, or by merely rubbing them on a hard surface till they became a stiff little pyramid, the shape of a stump used for chalk drawings, and then they became great treasures. He said he believed the worst thing to paint with was a paintbrush—'except the wrong end.' He would use a paper or leather stump or the handle of an old toothbrush filed down to a point, but the best of all, he thought, was the finger. When the putty-like pigment which he put on the canvas in distinct touches was nearly dry, he would sometimes take a paper-knife, and, using the flat part, would rub it over the touches, smearing them together. He would not touch the painting again till the smeared surface was quite dry. Then he would work partially over it."

It is remarkable that Watts, although he painted so many nude figures, rarely employed models. As we have said, he was a recluse and he did not care to have strange eyes observing him. Then he exaggerated the trouble of making arrangements with models. His memory was no doubt remarkable, but his figures are not always correct. He hated realism, and a figure that was not anatomically true served his purposes of expression as well as one in which bones and muscles were of the right size and in the right places. He was complimented when he was a boy in the Academy schools for the precision of his outline, and at one time there would have been little difficulty in making him join the pre-Raphaelites. But in his paintings he evidently preferred that people should think of the figure as a whole rather than of outline in particular. One result is that his figures are never hard, nor when they are classic suggestive of a bas-relief. Indeed, in some cases it would be difficult to trace the outline, and the result would often be unsatisfactory.

His mental energy was suggested by his sculpture even more than by his paintings. In his boyhood he was allowed to amuse himself in Behnes's studio. Although Behnes was not a great sculptor and never aspired beyond the monumental standard, which was not high in those days, he was able to employ several assistants, and a constant visitor could therefore observe how figures were produced. Watts also came under

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[*] *G. F. Watts.* Reminiscences by Mrs. Russell Barrington. (London: George Allen.)

Haydon's influence, and believed with that unfortunate painter that the Elgin marbles were the greatest works ever produced. Watts could not be considered as entirely an amateur when he undertook the colossal statue of *Hugh Lupus* for the Duke of Westminster. But at the same time it was a great undertaking for an unpractised hand in a Kensington garden. Mrs. Barrington tells us he made "a framework of wood—a section of a horse—over which he nailed large sheets of brown paper, and, cutting these to the shape of the horse, he drew lines in charcoal which indicated the action he meant to express." In the course of the operations he discovered that good lines are made up of flattened curves, while a bad line is a section of a circle. It seems remarkable that anyone who had the least acquaintance with Greek art was not aware of such a fact. He soon found that he could not work on his statue in the garden in wet weather, and if the clay were left any time without attention the modelling would suffer. An Italian revealed to him the virtues of staff. He mixed size and powdered plaster with pieces of tow, and with such materials Watts modelled *Hugh Lupus* and *Physical Energy*, as well as the unfinished *Aurora*. In his eighty-sixth year he hoped the last-named work would be carried out by himself in gold and ivory. He was not satisfied with modelling. The *Clytie*, which is in marble, was wrought by him. Concerning this work Mrs. Barrington remarks, and the words indicate what she thinks of the Celtic genius by which Watts was inspired:—

> The other day I realised how identical is one strain in the art of the Slav and of the Celt. I was listening from the gallery in Leighton's studio to a fine rehearsal of Tchaikovsky's splendid trio for pianoforte and strings. Close to me was a cast of Watts's *Clytie*. How intimately connected seemed the feeling of the two great works. As the sounds rose and I looked intently at the *Clytie*, so full of yearning, passionate, lingering unrest, each creation seemed to add something of meaning to the other. Two sister spirits speaking in music and sculpture; the same strain of mysticism and melancholy alike in composer and sculptor, uniting in creating one and the same deep impression. On the same level to the eye was also the Pheidian frieze which runs as a cornice along the studio wall. What complications in the sensibilities of the human race have the growing years of the world developed since that frieze of the Parthenon was sculptured, and Tchaikovsky's trio and Watts's *Clytie* were invented. How happy, simple and unagitating is the art of that noble Pheidian procession, so serene and composed in its dignified beauty compared to the mystery of the half-hidden Slav passion surging out in intricacies of musical sound, and to the straining, appealing gesture in the sculpture of the Celt. A stepping-stone between the eras which have produced these two so distinctly different emanations of genius is to be found in the *Slave* of Michel Angelo, a cast of which stood far down in the studio, near the musicians. Here is also a struggle, an unrest, a deeper suggestion of human passion than in the Greek art; but that particular wild note, as of a spirit emancipated from the shackles of the explainable, had not asserted itself in the melancholy imagination of the Southern Italian as it has in these days in our more mystic north.

It is interesting to note that the last occasion when Mrs. Barrington saw Mr. Watts was in May 1904. He was then working on the staff model of the statue *Vital Energy*. The cast had been placed in the quadrangle of Burlington House, and, on seeing it, Watts believed it was possible to introduce improvements. So he returned to the model which had occupied him for nearly thirty years. Thoughts about his art were with him to the end. Although suffering from many maladies he was as eager to improve himself as in his youngest days. That his memory will long be revered

The Area and Church of the Holy Apostles.

by his countrymen there can be no question. And people hereafter will be better able to understand his constant laboriousness, his self-denial and his aspirations to make teachers of his pictures by the sympathetic Reminiscences of Mrs. Russell Barrington.

CANALETTO'S VIEWS OF VENICE.—XIX.

THE area or open space near the church of the Holy Apostles in Venice is not extensive, but it has the advantage of being near the Grand Canal at a point opposite the Fish Market. A church has stood on the site from 830; the founders were the Cornaro family, and members of it continued to be associated with the building during many centuries. They erected chapels and paid for restorations in a generous spirit. At one time the church possessed many paintings by Venetian artists. The modern part of the church dates from the seventeenth century. One of the adjoining buildings, which used to be a scuola for one of the confraternities, is now used as the German Protestant church.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE third general meeting (business and ordinary) of the Institute was held on Monday evening last at Conduit Street, W., Mr. H. T. Hare, vice-president, in the chair.

The following were elected as Fellows:—Messrs. H. J. C. Cordeaux, G. A. H. Dickson, H. J. Helsdon, A. R. Hennell, J. Nixon Horsfield, W. G. Hunt, H. C. Kent, A. W. Moore, G. E. Nield, Joseph Owen, A. Rigby, P. Robinson, F. Rowntree, E. S. Underwood, A. F. Watson and E. A. E. Woodrow. As Associates:—Messrs. L. N. Barrett, A. A. Carder, J. C. Cook, O. S. Doll, G. L. Elkington, G. F. Ely, C. L. Fleming-Williams, J. L. Fouracre, L. U. Grace, W. C. Le Maitre, J. H. Markham, L. T. Moore, Val Myer, J. J. S. Naylor, H. Prince, E. Reid, S. Searle, N. Thomas, J. W. Walker and W. E. Watson.

Mr. H. T. Bonner withdrew the following resolution which was to have been moved at the meeting:—"That neither the President nor the Council, nor either of them, shall approach the promoters of any competition with the object of their nominating competitors; nor shall the President or Council appoint any professional assessor in any competition unless requested to do so by the promoters of such competition."

The London Building Acts (Amendment) Act, 1905.*

Mr. William Woodward, in commenting upon the Act, said:—

In opening what I hope will be an interesting discussion this evening, I shall not deal with the sections of the Act which do not, in my opinion, directly concern architects at the moment, but confine myself to brief comment upon certain sections, leaving to the discussion the bringing forward of fresh ideas.

Fortunately the present Amendment Act has had some of its sting taken out by the fact that many of its provisions are referable to the Tribunal of Appeal as at present constituted under the Act of 1894. It will be remembered that in the previous Amendment Act, which was withdrawn, the existing Tribunal of Appeal was attacked in rather bad fashion, and a new Tribunal was attempted to be created, which would have been to all intents and purposes a creature of the London County Council. We may all, I think, safely rely upon the Tribunal to uphold the reasonable provisions of the new Act, and to clip the wings of arbitrary and unnecessary interference.

On January 1, 1906, we shall be under what is termed "The London Building Acts, 1894 to 1905," and on that day "London" (the new Act goes no further) will be subject to their several provisions. The interpretation of the word "owner" and the word "rackrent" will give rise, I think, to some nice arguments hereafter, which will bring grist to the mills of the lawyers, as all Acts of Parliament seem designed to do. The interpretation of the word "plans" means "plans, sections and elevations." Why, after all the litigation and trouble we have had over the word "plans" in the Act of 1894, the new Act did not use the term "drawings" instead of "plans" I cannot guess, and as, in sub-section (2) of section 6 (the interpretation section), it is laid down that words and expressions used in the new Act bear the meanings assigned to them by the Act of 1894, &c., which we all know have puzzled judges as well as architects, we cannot be said to have gone very far ahead in that direction.

As regards the buildings affected on January 1, 1906—

Section 7 applies to certain new buildings, and there must be deposited at the County Hall the plans and particulars thereof, together with a copy (which may be a sunprint or photograph) of such plans showing "the means of escape proposed to be provided in connection with such building." The Council is confined to one month after the deposit of the plans, enlarged to two months during the Vacation between August 1 and September 14, to refuse to approve these plans, or to state conditions on which they will approve, but they are to give all their reasons for their refusal or conditions of approval, and if no such notice is given to the applicant within such period, approval by the Council is to be deemed to have been given.

Sub-section (2) of section 7 provides for a certificate by the Council before the upper storey of a high building is occupied, that proper means of escape have been provided, and fourteen days are given to the Council to notify its refusal and the grounds thereof, which, if not done, the certificate shall be deemed to have been duly issued.

Sub-section (3) of section 7 sets forth in a most exhaustive manner the sort of alterations or additions made to a building which will render the certificate issued by the Council void and of none effect, so that practically we shall always have the Council with us.

Section 9 begins to operate on January 1, 1907, and takes within its purview certain existing buildings. This purview is indeed an extended one, for with the exception of a dwelling-house occupied as such by not more than one family, it includes a very large number of the most important buildings in London. It takes in paragraph (*a*) of sub-section (1) a "high building" or (*b*) "a building in which sleeping accommodation is provided for more than twenty persons, or which is occupied by more than twenty persons, or in which more than twenty persons are employed." A "high building" means any building any storey whereof is an "upper storey," and "upper storey" means "any storey the level of the surface of the floor whereof is at a greater height than 50 feet above the level of the footway." It should be carefully noted that what was deemed a safe height in the Act of 1894—viz. 60 feet—has been now reduced to 50 feet, and this will bring in a very large addition to the number of existing buildings to be brought under the Council's domination. The *modus operandi* under this very important section appears to be as follows:—"The Council is to form an opinion as to whether or not these certain existing buildings are not provided with a proper and sufficient means of escape therefrom in case of fire," and it must be admitted that this power to form an opinion is a very wide one indeed. It of course gives power to enter buildings, to take plans, elevations and sections of them, and then within the quiet solitude of Spring Gardens they will be subject to that critical analysis with which some of us are familiar. And if the Council cannot bring within its notion of what is not "proper and sufficient" pretty well every building in London (with the exception, of course, of certain "exempted buildings" under the Act) over 50 feet in height, or containing sleeping accommodation for more than twenty persons, then I am unaware of those attributes of the Council which in many instances have brought them into somewhat public prominence.

When the Council have arrived at the opinion required "they may at any time serve on the owner of such building a notice requiring him to provide such means of escape as can be reasonably required under the circumstances of the case," and I look forward with much interest to the glorious fights there will be over the interpretation of the word "reasonable;" and, curiously enough, no guidance as to the word "reasonable" is afforded us under the interpretation clauses of the Act. The notice referred to is to "specify in detail the requirements of the Council." We have no ground for calling into question the ability of the Council to detail this notice, and the owner of the building, the subject of the notice, is to "do all such works and things as may be necessary to comply with the requirements of the Council under this section." It is true the owner may within twenty-one days of the notice submit to the Council "alternative proposals," and if the Council accept these he need not go on with the others.

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* These remarks were prepared by Mr. Woodward, at the request of the President, a few days prior to the meeting.

Sub-section (4) of section 9 does not authorise the Council to require any means of escape from any storey of certain buildings other than the "upper storey." In other words, it would appear to be lawful to be burnt to death at a height of 40 feet, but not at a height of 50 feet.

Section 10 sub-section (1) refers to projecting shops. The "projection" is, under the Act, "7 feet or more beyond the main front of any building of which it forms part, and in which any persons are employed or sleep." In all such cases the projection is to be provided by the owner "with a roof constructed of fire-resisting materials not less than 5 inches thick." This clause will affect many hundreds of shopkeepers in the Metropolis, and it largely depends upon the administration of the clause whether an owner's business is to be stopped, or whether he may be permitted—as I think later on it will be permitted—to pug the ceiling joists from the upper surface and to render the roof fire-resisting, or whether he will be compelled to take off roof and ceiling to form the fire-resisting covering referred to. The clause gives permission to construct a "lantern light" or "ventilating cowl" in this roof, but they must not be less than 6 feet from the main front of the building. What harm a "lantern light" or "ventilating cowl" would work in case of fire if either were placed 3 feet from such wall I know not.

Section 12 deals with dormer windows or doors opening on to roofs, or other proper means of access to roofs, and I do not think any reasonable objection can be urged by architects to this clause.

Section 13 deals with the "conversion of buildings," which really means that practically no alteration can be made in a building which will render it not in conformity with the provisions of this Act without the consent in writing of the Council. This is another section which, to my mind, entrenches upon the domain of occupancy, and it may be stretched to any length by a "busybody" controlling authority, as the section goes on to say that "convert shall include any change of user whether involving any structural alteration or not, and notice of such conversion shall be given to the district surveyor by the owner or occupier of the building to be converted."

Sections 16, 17 and 18 deal with district surveyors, their duties and their fees, and section 17 converts, I think, district surveyors into policemen or detectives.

Section 22 refers to appeals to the Tribunal, which may be made within two months after the owner may be dissatisfied with the proceedings of the Council under certain sections, and I may add, with pleasure, that the power to so appeal extends to several important sections.

Section 23 is one which more nearly upsets the idea of an Englishman that "his house is his castle." It gives power to the Council, their officers and district surveyors, at all reasonable times and after reasonable notice, to "enter, inspect and examine any building, structure or premises to which he has reasonable grounds for thinking that the provisions of this Act apply." Well, gentlemen, judging by the prying proclivities of some sanitary inspectors, who very quickly form what are, to their minds, "reasonable grounds for thinking," I tremble for the man who has a building more than 50 feet high from the pavement, or who has premises which afford sleeping accommodation for more than twenty persons.

Section 24 deals with penalties for non-compliance with the provisions of the Act, and I commend the damnatory paragraphs of this section to all would-be offenders who may think that they can successfully evade the thoughtful care of their protectors. No, the lawyers have been at work here, as one gathers by the use of the words "knowingly and wilfully," and I respectfully caution every "owner" against "knowingly and wilfully" doing anything in this world without the consent of the Council.

Section 28 is marginally described as "For Protection of Inns of Court," and this is the only piece of real humour which I have detected in the Act, because it turns out that the honourable Societies respectively of the Inner Temple, the Middle Temple, Lincoln's Inn and Gray's Inn shall be exempt from the operations of the Act; in other words, the whole of the lawyers occupying these Inns may be left to be burnt to death under the sub-heading of "Protection." We in this room know a great many lawyers in those Inns, and we raise our voices against selecting them to remain victims of risks which no other members of the community may incur.

There are several other exemptions from the Act which I think ought not to be, because it seems as if the rich owners of London can secure exemption from these serious inroads upon property, whilst the poorer owners are, *nolens volens*, brought within the range of what will in many instances prove to be ruinous requirements.

The first schedule of the Act deals with fire-resisting materials, and I am somewhat surprised to find "granite" in the list. Of course there is not a building material in existence which will not go in a furious fire, and granite would probably be the first to split up and lead to a catastrophe.

In the case of hard woods the thickness is reduced from 2 inches to 1¾ inch finished thickness, but I have always thought that in staircases the wall-strings certainly need not be as thick as the other parts. In sub-section (7) of the schedule certain squares of glass specified are not to exceed "16 square inches." Whether that means a square 4 inches by 4 inches, or a square 1 foot 4 inches by 1 foot 4 inches, I do not know.

The second schedule deals with fees payable to district surveyors, and I think it will be generally conceded, bearing in mind the status of many of our district surveyors, that however much money the Council may have wasted or may waste on this Act, they are certainly not wasting much on the fees to be paid to district surveyors.

I have thus given a general flying comment upon the Act; we must remember that it is an Act and not a Bill, and we must all do the best we can with it. Its success or failure will depend very largely upon the manner in which it is administered, and we in this room will not condemn the administrators until they have had a fair trial. If the officials who will have to do the work will bring to bear upon the provisions of the Act sound common sense, and keep the spirit of the Act rather than the letter always before them, much trouble will be saved. Every living man and woman dreads death from fire, and fair and reasonable protection can be afforded them quite as much by the practical exercise of common sense as by the exhibition of fads and fancies which too often characterise constituted authorities.

As to the drafting of the Act, I think it is much clearer on the whole than many other Acts, but it would have been still clearer if it had been punctuated. Why Acts of Parliament should not be made intelligible by punctuation Heaven only knows.

As regards the general provisions for escape by roofs, I think power should have been conferred to compel adjoining and recalcitrant owners to consent to ladders being attached to their premises—these would help both sides—but I see nothing to prevent an adjoining owner objecting to ladders which would allow an applicant to conform to the new law.

We will all trust to the Council to administer the Act in a reasonable manner. If they do, they will have the assistance and co-operation of all architects; if they do not, they must look forward to constant attempts at evasion and to bitter litigation, which will neither protect lives nor advance the real interests of the biggest Metropolis in the world.

Mr. J. Douglass Mathews, as chairman of the committee which the Institute had appointed in connection with the framing of the Act, said he was very glad that there was scarcely any point touched upon by Mr. Woodward in his remarks which had not received the attention of the committee. Their purpose had been to try and make the Act a workable one, and with that object in view the committee had closely considered the clauses and sections from the general point of view. Architects, he thought, would derive some benefit from the Act, which he believed the County Council would administer in a fair spirit. In conclusion, he proposed a vote of thanks to Mr. Woodward for having directed the attention of the meeting to the consideration of the new Act.

Mr. E. A. Gruning seconded the motion, which was supported by Messrs. E. T. Hall, G. Elkington, E. Woodthorpe and A. Maryon Watson.

The Library, Museums and Art Committee of Liverpool have purchased two pictures out of the Autumn Exhibition, one being by J. J. Shannon, A.R.A. (*Reverie*), and the other by D. Y. Cameron, A.R.S.A. (*St. Andrews*). The Vice-Chancellor having suggested a scheme whereby the Corporation library and museum might be brought into close relation with the similar departments of the University, to their mutual advantage, a special committee has been appointed to consider the details of the proposal.

NOTES AND COMMENTS.

The remains of old London in the City are not all revealed. The report of the local government, records and museums committee of the London County Council announces two discoveries. The first was brought to light during excavations on the site for a fire station in Cannon Street, when a Roman bath was secured. The inside dimensions of the bath are 6 feet 3 inches by 10 feet 6 inches, and the weight about 7 tons. On hearing of the discovery steps were immediately taken to preserve this valuable and interesting relic. It would have been placed in the Horniman Museum if the accommodation there was sufficient. The parks committee have offered to undertake temporarily the custody of the bath, and to store it in the mansion in Clissold Park. Operations are now in progress for the removal and preservation of the bath. In the course of the erection of a factory in Jewry Street, Aldgate, there was discovered a portion of the old London wall, 20 feet in length and 7 feet in height. The owner of the factory is aware of the antiquarian interest in the relic, and has arranged for it to be kept in position so that it will project about 3 feet into one of the rooms on the lower ground floor of the new factory; but, as an additional precaution, it was suggested to him that the wall should be protected by a galvanised iron netting similar to that round the Roman remains at the Coal Exchange.

A conference on smoke abatement and an exhibition of appliances to attain that object will be held in the Royal Horticultural Society's Hall, Westminster, from the 12th to the 15th inst. The exhibition will be opened daily from 10 A.M. to 8.30 P.M. The arrangements have been undertaken by the Royal Sanitary Institute. At the inaugural meeting the chair will be taken by the Duke of Fife, and an address will be delivered by the president, Sir Oliver Lodge, on the "General Problem of Combustion Reform." Several papers will be read on each day relating to "Domestic Smoke Abatement," "Factory and Trade Smoke Abatement" and "Administration, Legislation and Necessary Reforms." There will be visits to the Chelsea generating station of the Underground Electric Railways Company, Ltd., the gasworks in the Old Kent Road and the Abbey Mills pumping station. It may also be mentioned that, at the request of H.M. Office of Works, the Coal Smoke Abatement Society on Wednesday conducted a series of tests of twenty-four open domestic firegrates entered for competition by various manufacturers.

The Place Saint-Georges forms a sort of island between the church of Notre-Dame de Lorette and the Batignolles. It is a unique feature in Paris. In one of the houses, which was almost concealed from view by trees, M. Thiers lived for several years. It was, we believe, the property of his wife, and since her death has belonged to his sister-in-law, Mdlle. Dusne. It is now the property of the Institut owing to the generosity of Mdlle. Dusne. It has been stipulated that the mansion is to be used as a branch library of the Institut, and to be assigned especially to the conservation of historical works. In 1870, when war was about to be declared against Prussia, M. Thiers led the opposition to the proposal. The people of Paris were indignant with him, and some enthusiastic Imperialists intended to punish Thiers by setting fire to his house. A little later the Communists agreed to wreak their vengeance in the same way. The house has some literary interest, for it was there the history of the Consulate and Empire was written.

ILLUSTRATIONS.

SHIRLEY SCHOOLS, WEST WICKHAM ROAD, CROYDON, SURREY.

The perspective view and photographs illustrate the schools which have been erected for the Guardians of the Poor of the parish of Bermondsey. The problem of housing and educating the orphans and children of paupers, and at the same time to obliterate the taint of workhouse association, has always been one of great importance, and the powers conferred upon Boards of Guardians by the Local Government Board to erect cottage homes for these children have now no doubt gone a long way to solve this difficulty. To the parish of Bermondsey, with its teeming poor, these cottage homes were undoubtedly a necessity. The site purchased at Shirley covers an area of over 70 acres; a main road runs right through the site with a loop road branching off from it and returning again. This will be seen from the small key plan. The accommodation for the children is contained in sixteen double cottages and six single cottages. Each double cottage accommodates thirty and each single cottage fifteen children, making a total of 570 children. These cottages are placed along one side of the main road and on both sides of the branch roads, and are so arranged that the view of any cottage is not obstructed by any other cottage. Each cottage is presided over by a house mother who looks after the welfare of the children under her, and makes the condition of living as much home-like as possible. The girls are taught to assist in the general work of the cottage, including the washing of the smaller articles of apparel, &c. The heavy washing is done in a fully equipped laundry at the back of site. The boys are taught various trades such as carpentering, plumbing, boot-making and repairing, &c., in a set of workshops situated in the laundry building. The education of the children is carried on in a large school situated at the end of the main road. The school contains ten large classrooms, teachers' rooms, cloak-rooms and lavatory accommodation and a large drill hall, which, with a chancel at one end, forms a chapel for Divine service. The administration block contains accommodation for the head-master and some of the staff, &c., and also store-rooms. The other buildings include two staff cottages, a probationary block, porter's lodge, &c. The architects were Messrs. Newman & Newman, of 31 Tooley Street, London Bridge, S.E. The contract was carried out by Messrs. Charles Wall at a cost of 143,268*l*. Mr. J. Carpenter was the clerk of works. The heating and hot-water services were by Messrs. Kinnell & Co., hot-air stoves by Mr. J. Grundy, the terrazzo floors by Messrs. Diespeker & Co., wood-block floors by Messrs. Goddard, of Farnham, and the telephones and fire alarms by Messrs. Tamplin & Makovski.

RESIDENCE AT PARKGATE, CHESHIRE.

The residence is erected of red brick, Broseley tiled roof, the half-timbering being in English oak. The hall is very spacious with a gallery round, also treated in half-timbered oak.

VILLAS, PRESTON.

These villas are built of red brick, with tiled roof. They contain good hall, with ingle, two entertaining-rooms and six bedrooms.

PAIN'S HILL, SURREY.

RESIDENCE, ST. JAMES'S PARK, HARROGATE.

This house is built with red brick, the facing bricks being from Accrington, relieved by red rubber arches. Above a brick string-course the walls are finished with half-timber tile-hanging and cream-coloured cement rough-cast, the woodwork all being painted white. The roof is covered with Messrs. Peake's "Perfecta" red tiles. The interior woodwork is principally canary-stained, green and polished. The work was carried out by local contractors, the bricklayer being Mr. C. A. Nettleton and the joiners Messrs. Clapham & Taylor. The architect was Mr. H. E. Illingworth, A.R.I.B.A., of Leeds and Harrogate.

CATHEDRAL SERIES.—WAKEFIELD: GENERAL EXTERIOR.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last at Tufton Street, Westminster, Mr. John Murray, vice-president, in the chair.

The following were elected as members :—Messrs. Paul Faraday, P. R. Fincher, K. Dalgliesh, C. W. Long, H. W. Spark, T. C. Black, C. G. C. Payne, H. Griffin, jun., Harold Sudlow, F. C. Barrow, A. G. Taylor and Flint Browne.

Mr. E. F. Reynolds read the following paper, which was illustrated by lantern views, on

Turkish Architecture.

The student of Turkish architecture is confronted by a somewhat unusual initial difficulty. He finds that there are few authorities on the subject, that they give but meagre information, and, if he further pursues his inquiry, that much of the information is inaccurate and misleading. The slightness of the knowledge to be gleaned from books is assuredly not due to any lack of intrinsic interest in the subject, but rather to lack of opportunity. For if the student proceeds to Turkey and attempts to study the buildings themselves, his difficulties only increase, and indeed become well-nigh unsurmountable. Religious fanaticism and political suspicion have almost altogether closed Turkish doors against the inquisitive architectural infidel, and only by the most exceptional good fortune may the right to enter, sketch and measure be obtained. Through the courtesy of the Royal Institute of British Architects and the British Embassy at Constantinople such good fortune was my own experience, and, in company with Mr. J. B. Fulton, I was able to give some study to the subject on which your Council has invited me to speak.

The Mohammedan religion has been as powerfully represented in building as the Christian religion, and the Turkish mosques represent the most impressive and a most characteristic phase of Turkish architecture. I propose to confine my remarks to this aspect, entirely disregarding the palaces, the castles, the bazaars and the domestic buildings which show other aspects of the same art, and, further, to deal almost exclusively with the great mosques of Constantinople.

Perhaps the best way to approach the subject will be to take a preliminary glance at two mosques at Brûsa, the Turkish capital in Asia Minor before the conquest of Constantinople. Ulu Jami, the great mosque, represents a type of plan derived from the original courtyard type. The rectangle of the building is divided by massive piers and arches into twenty square bays, each covered with a cupola set on pendentives, except one central bay, which remains open to the sky. The construction is of brick, the piers being square on plan and the arches pointed in outline ; and the internal walls, originally covered with tiles, are now whitewashed and decorated with writings from the Korân. Light is introduced by windows in the bases of the cupolas, and the interior, with the cross-views half blocked by the forest of great piers, is heavy, though picturesque in effect. A free-standing minaret flanks each side of the façade, and a later portico shelters the central entrance.

Yeshil Jami, the Green Mosque, was built in 1420, and represents a complex variety of the later cruciform type of plan. The plan is complicated by the fact that the mosque was built on the site of a Byzantine church, and also because it was the royal mosque, and, therefore, included special chambers for the Sultan. The arms and the crossing are covered with domes, the square compartments being reduced to the circle by means of simple stalactite pendentives. The walls, internally and externally, are aced with marble masonry, and the windows, niches and doorway of the façade are richly carved with a decoration of very advanced character, including stalactite work and arabesques in low relief. The internal gallery and alcoves or the Sultan are sumptuously covered with dark-blue tiles, hreaded with the gold, green and white of slightly raised patterns. The whole building is a storehouse of an early Turkish art full of Persian influence, and it realises an ffect of the utmost luxury and beauty.

These two mosques may be taken as typical of Turkish uilding prior to the conquest of Constantinople, differing rom other Saracenic work of the time only as varieties of he main stock, closely related to the mosques of Egypt and Persia, and perfectly normal in development.

But, with the conquest of Constantinople, the natural growth of Turkish mosque building was radically modified y a new influence—an influence strong enough to produce n almost complete change of flower and fruit. This revolution was the effect of a single building—that church of S. Sophia which had already exercised so profound an influence in the history of art, and which was now to lend its vitality to an alien creed. Rumours of the splendour of the church had long been current in the East, and Mohammed himself had prophesied its conversion to a mosque. The Turks, therefore, regarded it as a predestined possession, and it may be that we owe its preservation to this view. But, not content with its possession, the Turks emulated its qualities, and henceforward they founded all their great mosques on its model, disregarding their own traditional forms or altering them in unison with their new ideal.

The change was probably less due to real æsthetic appreciation than to a desire to invest their own religion with an easily-adapted magnificence. Mohammedanism was a militant religion whose fast rising power had outstripped its expression in outward grandeur, and the possession of the greatest church of the East gave the Turks a new scale and model for its architectural exhibition. But, further than this, the readiness and completeness of the change were in large measure due to the national character. The Turks were a military rather than an artistic race, and they were always dependent on other nationalities for the fulfilment of their æsthetic needs. The Persian quality of their mosques at Brûsa has been mentioned, and at Constantinople their most famous architect was an Armenian. The Turks themselves had little of the subtle instinct of the artist; to them art was a slave to minister to their pomp and luxury rather than a spirit to be sought with toil and glad self-sacrifice. A close parallel may, indeed, be drawn between the character of the Turk and the Roman, and the comparison is rendered more striking by the similarity of experience in their contact with the art of another race. But, whereas the Romans had adopted Greek forms for the decoration of their own structures, thereby stifling the expressive evolution of its true qualities, the Turks, on the other hand, adopted only the plan-type of S. Sophia, leaving themselves free to adapt and develop it in accordance with their need, and to clothe it with fresh expression by a thoroughly Saracenic mode of decoration. But Byzantine and Turkish art may not be regarded as altogether alien to each other. In Byzantine art there had been a strong infusion of Eastern influence, so strong indeed that, as compared with Roman art, its qualities are distinctively Oriental; and although that influence was qualified by its infiltration through a Greek race, yet it preserved much of its original character. In return, the ascendant power of the Byzantine Empire and the fine quality of its art had given a reflex radiation which nourished the roots of the Mediæval Saracenic school among others. In their westward advance to Constantinople the Turks passed over soil which was fertile with Byzantine influence, for Brûsa was a completely Byzantine city when they entered into its possession, and this could not have been entirely without effect on a race of the Turkish temperament. Hence there was already a certain affinity between Turkish and Byzantine art, an affinity showing itself in broad tendencies rather than special particulars.

The requirements of Mohammedan ritual are simpler than those of Christian ritual. The mosque proper is preceded by a forecourt, which gives additional space for the crowds of the faithful who assemble at the great festivals, and at the centre is placed a fountain of ablution. The mosque itself provides a sheltered place for prayer, and so long as sufficient floor-space is provided its general shape may vary very considerably. A small niche in the centre of the eastern wall indicates the direction of Mecca, but it has no such ceremonial significance as the altar in the Christian Church. Thus, such a form of plan as the Great Mosque at Brûsa would be impossible for a church service, only about one-quarter of the congregation being able to see the position where the altar would be placed ; but the Mohammedan does not face toward the Mecca niche, but parallel with it and toward Mecca itself. Further, spiritual equality is an essential idea of the creed, and there is no such distinction as between laity and clergy. Hence the floor is one open level area, and there are no such smaller chambers as chapels and vestries.

Applying these conditions to S. Sophia, it is evident that, although simplification was necessary, yet in its main lines the plan was eminently suited to Mohammedan ritual. It should be remembered that both religions were of Eastern origin, and that many observances applied to them equally. Thus the custom of washing before prayer was practised by the Christian also, and the cloistered forecourt of S. Sophia, with its central fountain, was identical with Mohammedan requirement. On the other hand, the Christian narthex was meaningless to the Mohammedan, for the system of neophytes, who were promoted by degrees to the full entrance of the Church, did not exist in his religion. Internally, the broad, unbroken space under the dome and semidomes precisely fulfilled the conditions of Mohammedan worship, and it was this principle of covering a large area which was the main theme of the subsequent Turkish mosques. The aisles of S. Sophia, necessary to give depth of abutment to the great arches of the dome, were also retained, but their subdivision in height by galleries was discontinued. These galleries had been reserved for the use of women in the Christian Church; but a Mohammedan controversy had decided that women have no souls, and their galleries were accordingly abolished in future mosques. The exedræ, or subsidiary apses, seem to have been regarded as obstructions to that broad floor-space which was the Mohammedan ideal, and the whole tendency of mosque construction was toward a great square described around four isolated piers which sustained the central dome.

The mosques were built on a grand scale, and the more powerful Sultans successively vied with each other in erecting a magnificent tribute to Allah and a convincing proof of their own power. Several of the mosques approach S. Sophia in size, but perhaps more astonishing than their size is the sustained, yet concentrated, energy of their building. Within little more than a hundred years some seven great mosques were built in Constantinople which are definitely larger than the innumerable smaller mosques that fill the city, and any one of these alone would make the city notable. It may be said that a series of buildings is here brought together which, under other social conditions, would have been scattered among several centres; that the whole empire contributed to this congregated magnificence. But, however that may be, this series of great mosques is an amazing testimony of the power and greatness of the Turkish Empire, which at one time overshadowed Europe.

The first mosque to be built in Constantinople was erected by Mohammed the Conqueror himself; but it was destroyed by an earthquake and rebuilt at a later date, and, so far as I know, no record of its original design remains. The earliest existing great mosque was built by Bayezid II. in 1497-1515. This is one of the smallest of the imperial mosques, the forecourt and mosque forming a double square on plan, which measures 268 feet by 135 feet. The forecourt has three entrances and is surrounded by a cloister six bays square, each bay being defined by pointed arches set on columns and covered with a cupola set on pendentives. The mosque itself is set out as an exact square, 120 feet 9 inches across internally, and the four central piers are so placed as to include two of the four equal bays of the aisles, these bays being covered with cupolas on pendentives. The arcades which subdivide the north and south sides of the central square bear tympanum walls filling the great arches, these walls rising above the aisles and pierced with windows. The dome is carried on pendentives which close around the great arches, and at the base it is pierced with a ring of windows after the manner of S. Sophia.

But the crux of the whole design was the management of the semidomes. It has already been said that the Mohammedan architect seems to have felt the apses and exedræ of S. Sophia to be obstructive, and he solved the difficulty by making them an affair of vaulting only. On the ground plan of all these mosques there is no sign of the complex domical forms which are so conspicuous externally, and the whole of them are ingeniously carried on arches. In this case the semidomes of the exedræ are altogether omitted, and the great semidome is carried on simple pendentives, so that it is a repetition of half the central dome.

This mosque is of special interest on account of an unusual development at the west end. The western aisle is extended on each side by additional wings, so that an uninterrupted vista, 272 feet in length, is obtained. Each wing is divided into three bays, and covered with five cupolas, their supporting arches carried on other arches in a most astonishing and characteristically Oriental way. Such an instance is in itself sufficient proof of the perfect familiarity with arched and domical construction, for none but the adept would venture to play with his methods so freely. The bases of the minarets project from the extremities of the wings, and porticoes connect them with the outer wall of the forecourt, while on the south side two libraries add yet further length to the wing. I think that these wings, minarets and libraries were added after the original building of the mosque, and probably themselves not all at the same time.

The external view of the mosque shows the high outer wall of the forecourt, with its rows of window-openings and its entrances, and the repeated cupolas of the bay divisions. This principle of covering by a series of cupolas, and the consequent subdivision of the plan into square compartments, is an essentially Oriental method of roofing, and its influence penetrated all Eastern buildings.

The cupola, or dome, has always been a common mode of construction in the East, applied as readily to the meanest dwelling as to the palace and shrine, and, for the proper appreciation of Oriental architecture, it is necessary for us to forget that special significance of the dome which its rarity in the West has conferred on it.

Beyond the forecourt rises the mosque, its dome, semidomes and cupolas, all intimately expressing, and almost repeating, the forms of the interior. The four great piers beneath the dome are marked by circular turrets, and the two minarets rise clear from the buildings below, a twin and slender contrast to the broad, curved masses of the mosque. This close intimacy between internal and external form had also been characteristic of Byzantine building, but only insomuch as it is characteristic of all Oriental building. Such simplicity and candour of construction is one of the finest qualities of Eastern art, and, at the same time, distinguishes it from the more complex methods of our Western art.

In 1520-6 Suleiman I. built a mosque to the memory of his father, Selim I. The plan is extremely simple, consisting of nothing more than a single great dome, set with pendentives on a square of wall, and with the usual forecourt attached. The building shows little of the influence of S. Sophia, and may be regarded as the largest instance of the smaller type of mosque, having no relation to the main development of the great mosques.

The next great mosque—that of Shah-Zadeh—was also built by Suleiman I. in 1543-8, and it exhibits several changes which ultimately became embodied in the traditions of mosque building. Its architect was an Armenian, named Sinan, and he seems to have gathered together the vague tendencies of his day, stamping them with his personality, and setting the standard which henceforward guided the design of Turkish mosques. He may well be compared with such a man as Bramante in Italy or Inigo Jones in England.

The Shah-Zadeh Mosque is of medium size, measuring 145 feet by 166 feet, while the forecourt measures 133 feet by 147 feet, giving a total length of 278 feet. The forecourt is surrounded by a cloister of unusually large bays, each being 28 feet square, and the north and south arcades have deep wall-arches with projecting piers. The mosque itself is set out in the exact form of a square, and there are three principal innovations to be noticed. The first is that the application of semidomes is no longer confined to the east and west sides of the central dome. All the four sides are treated exactly alike in this respect, and the expression of length given by the north and south arcades in the previous mosque, and reminiscent of the Christian Church, is exchanged for a more central and perhaps more logical emphasis of the great dome. Although, as compared with the Bayezid Mosque, the actual floor space is only increased by the omission of two columns, yet the æsthetic restriction of the north and south tympanum walls was removed and the whole interior filled with a wonderful sense of expansion. The second point of originality lay in the introduction of subsidiary semidomes in the bases of the great semidomes; and the complete domical scheme of the apses of S. Sophia was thus reproduced, although entirely supported on arches, and not indicated in any way on the ground plan. A difficulty arises in fitting the curves of the lesser semidomes within the rectangular lines of the lower plan, and to this was probably due the simpler form of the earlier Bayezid Mosque. This difficulty was solved in the Shah-Zadeh Mosque by splaying back the main piers so as to give room behind the great arches for the full development of the lesser semidomes, and some such device was generally adopted afterwards. The curves of the subsidiary semidomes left only small spandrils or planes to be supported, and these were filled out with courses of corbelling. The third point of fresh development was the extension of buttresses on the north and south sides of the mosque. This was rendered necessary by the increased scale of building and the greater height of the dome, and with the Oriental dislike of projection, or in the desire o utilising the whole extent of building, the spaces between the buttresses were filled with arcaded galleries. These were partly used as porticoes, and they became a permanent feature in later mosques and an important factor in the external aspect of the façades.

Externally, the higher development of the plan is reflected by a further complexity of grouping. As in the Bayezid Mosque, each several part of the internal doming may be clearly traced, from the cupolas over the aisles, the great and lesser semidomes, up to the central dome. The circular turrets over the four main piers are here more marked than in the former mosque, and their cupolas are deeply corrugated. An enrichment of carving is applied most effectively to the cresting of the drums and to the shafts of the minarets, and there is a certain refinement and delicacy of form throughout which is sometimes lacking in later work. Viewed from the ground the mosque is of most shapely proportions. The main square of the plan is carried up to a constant cornice-level, and serves as a grand base on which is set the complex pyramidal outline of the domical roofs. The external arcades give deep and restful shadow, and the minarets, set in the middle of the plan, accentuate the grouping and clear it from any confusion.

Sultan Suleiman I., or the Magnificent, seems to have been a truly Augustan patron of the arts, for in 1550 Sinan, the architect, began the building of his third great mosque, which is called the Suleimaniyeh after him, and which, in point of size and natural position, dominates almost all Constantinople. It is set on the summit of the low hills, which rise from the Golden Horn on the one side and from the Sea of Marmora on the other, and it is a most conspicuous landmark from all parts of the city and from the very sea itself. The mosque is 227 feet in width and 203 feet in length, and, with the forecourt, makes up a total ength of 359 feet. It is interesting to compare the size of this, the largest of the Turkish mosques, with the church of S. Sophia, its prototype. The church is 237 feet wide and 291 feet long, its total length, including the original forecourt, being about 444 feet. Thus it will be seen that, while appreciably smaller than the church, the mosque is neverheless on a most magnificent scale, and it should be remembered that it is merely one of a series and no unique effort. The diameter of the dome is 85 feet 4 inches, as compared with 101 feet 8 inches in S. Sophia.

The forecourt is nine bays wide and seven bays deep, and has three entrances in the usual positions, the western entrance being elaborated with chambers on either side. The mosque itself in some degree indicates a reversion to an earlier type, for only the east and west sides of the dome have semidomes applied to them, while the north and south sides are filled with arcades bearing tympanum walls. I can find no reason for this reversion in the mosque itself, and am inclined to surmise that some reactionary influence may have been brought to bear on the architect, Sinan, similar to that which compelled Wren to build St. Paul's Cathedral on the Gothic plan.

The arrangement of the dome and the east and west semidomes, with their lesser semidomes, is similar to that of the Mosque Shah-Zadeh. The north and south aisles under the dome are divided into three bays, and these are grouped in a novel and somewhat curious manner, the entral bay being larger than the other two. This setting-out has the result of putting several of the arches out of entre with the cupolas which they carry, and the effect is not altogether satisfactory. Another result of this arrangement is the pushing forward of the outer walls in the entral bay of the mosque, the other parts of the outer wall remaining in the usual position, and allowing four deep porticoes between the buttresses.

Externally the grouping is less compact than in the preious mosques. The great arches beneath the dome had lways been sustained by internal buttresses passing over he aisles, but here, probably on account of the great scale, hey project above the roofs and add a further complication o the already complex formation of cupolas and domes. They rise in steps up to the original turrets over the main piers, and, while still keeping within the general pyramidal utline, they are rendered the more conspicuous by the bsence of the north and south semidomes. A novelty is ntroduced in the great pent roof which projects over the xternal galleries. Its purpose is to shelter the faithful while performing their ablutions at the series of fountains elow, and it was generally adopted afterwards. For the rst time, also, four minarets were erected, two in their usual position at the junction of the mosque and forecourt, and the other two, of less height, at the western angles of the forecourt.

In some respects the exterior is less successful than that of the Mosque Shah-Zadeh. The proportions are heavier, and the buttresses appear to be a mechanical expedient which has not yet been entirely brought into place with the other parts, while the gigantic scale tends to give an almost uncouth aspect to the complicated grouping of the roofs. But these are defects which appear only at close quarters, and it would almost seem as though they were due to a distortion of perspective produced by the enormous size of the building. At any rate, when viewed more distantly, the mosque crowns the hill in a most stately manner, forming one of the most perfect groups in a city of fine architectural grouping.

The next great mosque was built by Ahmed I. in 1608-14, facing the ancient Hippodrome and close to S. Sophia. In scale it is almost equal to the Suleiman Mosque, measuring 214 feet by 364 feet, and the forecourt is the largest in Constantinople, for its width includes the external galleries of the mosque. The mosque itself represents the highest development of Turkish planning, for not only are semidomes applied to all four sides of the central dome, and not only are subsidiary semidomes applied to all of them, but also, in three cases, the number of the lesser semidomes is three instead of the usual two. In previous mosques the third subsidiary semidome was represented merely by a wall arch, but here the greater internal depth of the buttresses allows its full development, and further, this internal depth of abutment is articulated with piers and arches. Altogether, the mosque is covered with twenty domical forms, besides various barrel-vaults, and the interior is filled with the interest of their curving modulation up to the central dome. The four piers under the dome are gigantic fluted columns, 18 feet in diameter, and built of marble masonry; but the circular form looks somewhat weak and lacking in rigidity, notwithstanding its enormous size. Another striking feature of the interior is the great number of windows; fifty are shown on the ground-plan alone, but, together with those in the upper walls, the cupolas and domes, there are over three hundred windows in all to light this one vast chamber.

As in all these mosques, the exterior is a faithful translation of the interior, and, as the planning is the most highly developed, so the external roofs attain their greatest elaboration. The same progression from the lesser and great semidomes up to the central dome which is essential to the interior is inversely reproduced in the pyramidal outline of the exterior mounting to the culmination of the same great dome; while the large octagonal turrets represent the great piers, and the stepped buttresses represent the abutment arches. As before, the main square of the plan rises above the lower galleries and porticoes, and gives a massive base for the complex group of domes. The exuberant expansion of design permeates the whole building, and not four, but six, minarets rise around the mosque, emphasising and relieving its domed mass by their own slender height. There are few Mohammedan mosques with more than four minarets, and the erection of these six led to a charge against the Sultan of wishing to vie with the Holy Mosque at Mecca.

In 1615 a mosque was commenced by the wife of Ahmed I., and, remaining unfinished, was completed fifty years later for another lady, the mother of Mohammed IV. This mosque, the Yeni Valideh Jami, differs from other mosques in situation, for it is not raised on an eminence apart, but is built on the shore of the Golden Horn, and surrounded by the business of a market-place. Although of comparatively small size, its dimensions are still very respectable. The width of the mosque is 156 feet, while the total length, including the forecourt, is 272 feet. The forecourt is of the normal type, entered by three doorways and surrounded by the cloister covered with cupolas. The mosque has semidomes on all four sides of the main dome, and each of these has two subsidiary semidomes, except at the west, where the design of the Ahmed Mosque is recalled by three subsidiary semidomes. The main piers are of a cruciform plan, and the smaller western piers are octagonal. The external porticoes and galleries and the position of the two minarets follow the arrangement of previous mosques, which had now become a settled tradition.

The same traditional quality which was observed in the planning also moulded the external form. There were here no new problems to be solved; the possibilities of mosque-building had been explored within the limits which the

Turks had set themselves, its principles had been finally determined, and the building of a mosque had in a large measure become automatic. The discontent of the artist still found a certain scope in refinements of proportion and expression, but the time of large constructive originality was over, and for a brief period Turkish art passed smoothly along the high level it had attained, still moving by the impetus of the past ascent. Thus the walls and domes of the Yeni Valideh Mosque were composed with the perfect familiarity of previous experience, and the later date of its building is indicated by slight changes in the adjustment of the parts and by a care for well-calculated effect rather than by any distinguishing novelty.

By the end of the seventeenth century the Turkish Empire had passed the meridian of its power, and the subtle relation between politics and art was reflected in a decline in energy and taste of building. For more than a hundred years no great mosque was built, and the mosque of Sultan Osman, erected in 1748-55, shows the first signs of Western influence, a taint of the Rococo Renaissance. The scale of building is smaller than in any of the previous imperial mosques, and the plan is treated with a certain freedom which shows an effort after novelty. The forecourt is of a unique shape, the western bays being set out on a semi-decagonal form. The several bays are covered with the usual cupolas on pedentives, and the interspaces are covered with barrel-vaults. The mosque itself consists of a single great dome set on pendentives, and the most remarkable point of construction is the way in which these are carried. The weight is not taken by the solid walls, as the plan would suggest, but by four great arches, which spring from piers at the angles of the mosque, the walls themselves becoming mere filling. At first sight it would appear that the arches are merely decorative, and that the walls take much of the direct weight, after all; but the tympana are so pierced with windows that there is little strength o masonry left. The arches evidently take the weight of the dome, and they depend on the remarkably slight abutment of the angle piers. The dome is of light construction, and the piers are weighted with turrets, but the design is certainly very daring; and the dome, with an internal diameter of 81 feet 9 inches, is no plaything, being the second largest Turkish dome in Constantinople. Although the construction is still distinctively Turkish, the decoration has become an extraordinary Saracenic version of the Rococo Renaissance. Mouldings are freely used, and often with very refined profiles; but the walls of the forecourt and the interior are frittered with pilasters, and the fine simplicity of typical Turkish work has been almost altogether lost.

The original mosque of Mohammed the Conqueror, the first to be built in Constantinople, had been shaken by the earthquakes of 300 years, and, in 1768, its almost entire rebuilding became necessary. The new mosque has little relation to the original design, for it follows the fully-developed model of the Ahmed Mosque. The scale is still very great, but the forms are tainted with the Rococo corruption. Every dome and cupola of the olden splendour is here, but the spirit is almost gone, while the tasteless body remains. Turkish art was fast declining in its course, and was now moving only by the force of its fall.

(*To be concluded.*)

THE QUANTITY SURVEYOR'S RELATION TO ARCHITECT AND BUILDER.*

MR. PRESIDENT, Vice-Presidents and Gentlemen,—When it was suggested to me—by a too kind friend—that I should prepare a paper to be read before this Association, having for its subject the "Quantity Surveyor," I confess I was somewhat staggered at the vista opened before me by such an undertaking, and, in moments when I should otherwise have been enjoying the sleep of the just and the virtuous, I had dancing before my mind's eye the brain-fagging words, specifications, quantities, extras and omissions, day accounts, dilapidations, arbitrations, reports, party-wall notices, &c., to such an appalling length that I was soon convinced that a paper upon the "quantity surveyor," unless safeguarded by some boundary to its scope, would easily run beyond the limits of time at my disposal for its preparation or of yours for its hearing. Having got thus far then, it occurred to me that the quantity surveyor's relation to the principal parties with whom he is usually brought into contact in the ordinary exercise of his vocation might be profitably touched upon, more by reason of the value of the discussion which it would probably evolve from a body of experts such as are here assembled than from any novelty or ability with which the subject would be treated by me.

Having thus justified my title and safeguarded the scope of my remarks, may I be allowed to say, before this company, a word on the restrictive title of "quantity surveyor" and its actual definition?

I am aware that some surveyors of good repute and practice object to the prefix of "quantity" to that of surveyor, on the ground that the preparation of bills of quantities does not exclusively embrace the whole scope of the work which passes through our hands. I submit, however that it is because we are principally, if not altogether, men who deal chiefly with quantities as applied to the building and allied trades, that we are now fairly and legally entitled to the distinctive designation of "quantity" surveyors, in contra-distinction to the more general term surveyor, which may, and does in many cases, cover a multiplicity of branches of the profession in which "quantity surveying" is conspicuous by its absence. It is not my desire to evoke controversy upon this particular matter, but you all know that "surveyor" is a term of so elastic a meaning that it only falls short in its far-reaching significance of the equally abused epithet "professor," which latter title may refer to an eminent astronomer, or equally, the genial chiropodist at my Turkish bath. All of you gentlemen, as myself doubtless, in naming your profession to laymen, have often met the question, "What is a quantity surveyor?"

I will be so bold as to attempt here a definition of such as would serve for all time. I would suggest the following:—

1. A man having an expert knowledge of building construction in all its various phases.
2. A knowledge of the mode of measurement of cubical, superficial, lineal and numerical items of the various trades and artificers' work employed in the erection and completion of buildings, together with the monetary values thereof.
3. A knowledge of the particular Building Act or Acts, or local by-laws, which may legally govern the various stages which the building will occupy from inception to completion.
4. Such knowledge of the various styles and orders of architecture and its parts as may enable him to truly describe the particular details of work.
5. An intimate acquaintance with modern sanitary laws and requirements, the law of dilapidations, arbitrations, compensations, light and air, and other easements with respect to public or private buildings, and the value of property for mortgage or other purposes.
6. A comprehensive grasp of the nature of the work to be done, which, with strict accuracy and method in his procedure, may enable him to place before the builder bills of the exact quantities of all materials and labour required to be provided, from which the cost of the particular structure with which he is dealing may be clearly estimated.

In my somewhat lengthy definition I have included accuracy as a desideratum for the quantity surveyor. This is indeed a *sine quâ non* of his existence. To paraphrase the words of a famous singing master who, when asked what were the requirements of a good singer, replied, "The first is a good voice, the second is a good voice, the third is a good voice," I say that the first requirement of a good quantity surveyor is accuracy, the second is accuracy and the third is accuracy.

I am aware that the layman's general reading of the word "quantities" is far different from that which I have attempted to define. I say a layman's idea, but some professional men's view of "quantities" is perilously vague.

I have before me a bill of quantities, not, I am glad to say, prepared by a member of this Association or by a surveyor in London practice, in which occur the following items, and these in a job in which the brickwork runs to between 200 and 300 rods.

The first item is, "So many yards superficial, tuck pointing to front, measured gross, including all openings."

The next item is, "Allow to finish all other internal and external walls struck joint."

From another bill, which was prepared under somewhat peculiar circumstances by a much self-advertised firm, and which is also before me, I cull the following choice extracts:—

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* A paper read by Mr. F. B. Hollis, Q.S.A., at an ordinary general meeting of the Quantity Surveyors' Association on December 6.

"No. 1. Digging sump hole 15 feet deep from surface and as large as necessary to enable man to work."

You will here see how beautifully the quantity surveyor has made the size of the sump proportionate to the girth of the man digging it; small man, small sump, and *vice-versâ*.

Again. "2,091 feet sup. = 7¾ rods nearly, 14 inches reduced brickwork in lime mortar in walls and foundations."

Once more. "No. 1. Dry brick lining to sample (*sic*), 15 feet deep below surface of ground, not larger than necessary for working in while making."

I expect this is our old friend the sump before referred to. I hardly know what the result would be if a small man dug the hole and then a large sized bricklayer was turned on to stein it. Perhaps language would be one of the consequences, for a number two size bricklayer working in a number one size sump must be in a distinctly uncomfortable position.

These are truly beautiful examples of how not to do it.

Now as to the quantity surveyor's relation to the building owner and the architect.

As the architect in his relation to the quantity surveyor becomes practically the mouthpiece of the building owner, perhaps, for the sake of brevity, we may consider these two relationships together, as whatever the quantity surveyor does in the interests of the architect is, to all intents and purposes, in the interests also of the building owner.

As a point vitally affecting the building owner, this may be a fitting place for a few words on that much-debated question, "Should the bill of quantities form part of the contract?" This is a question which in one phase or another is constantly confronting us, and indeed no paper upon quantity surveying or quantity surveyors, and no subsequent discussion arising therefrom, can be considered in any way complete without some reference to it. It is, I believe, a question which is coming more and more to the front amongst members of our profession, and is one, I think, which claims our earnest attention, with a view to having it settled in some way upon a more common sense and less haphazard basis than at present obtains.

In cases where the bills of quantities are part of the contract the employer's main grievances, I take it, are these. That until the building is complete and the accounts have been adjusted some uncertainty—varying, of course, with the magnitude, &c., of the structure—exists as to the exact amount he is spending upon it. This, of course, from the point of view of the business man, is not only a novel but an eminently unpleasant situation. He can order a yacht or a motor car, and know exactly the amount of the cheque he will have to draw in exchange for either. But should he decide upon building a house, he must be satisfied with a more or less approximate estimate, which can only be replaced by an exact figure upon the completion of the building. And in cases where a limited sum only is available for this purpose, it may conceivably be the case that great inconvenience may arise when, upon an adjustment occasioned by a "shortage" in the original bill of quantities, an extra sum of money is called for to meet such a contingency.

When the quantities form part of the contract the employer pays a fair price for what he obtains, and would receive a credit for any items which might have been taken "full" in the original quantities. So that, upon the whole, there does not appear to be any justifiable cause of complaint upon his side.

Of course the usual business risks he must take in any case, such as the builder's failure before the completion of the contract, with its very serious inconveniences; then workmen's strikes are always an unknown quantity, and may arise at any moment, so to speak, causing delay in the carrying out of the works, and frequently (as in the case of a large factory) very substantial monetary losses and inconvenience.

Until quite recently the opinion was held by many, besides myself, that it is the builder who benefits by the system, as he would be free from any risk of loss in consequence of the lack of skill or by any negligence on the part of the quantity surveyor, inasmuch as that any errors which appeared in and any omission from the bill of quantities would be rectified. In view of a judgment in the recent case of Patman & Fotheringham *v.* Pilditch, in which it was held that an omission from a bill of quantities is not an error, and is not capable of being rectified under clause 12A of the R.I.B.A.'s conditions of contract, you will probably agree that a case may frequently arise in which a builder will hesitate, if not positively refuse, to sign a contract of which a very indifferently prepared set of quantities forms a part.

The correction of casual errors is one thing, but occasionally it may be necessary for a builder or his representative to endeavour to convert a bad set of quantities into a good one, and to measure many items of labour which an inefficient surveyor, for instance, would neglect to measure. My own opinion is that making the quantities part of the contract would insure a more thorough consideration of doubtful points in the specification and plans, and lead to the weeding out of any doubtful point in either—a consummation devoutly to be wished.

I will not further enlarge upon this particular question at present, but trust to hear the opinion of some of our members upon this during the discussion.

Another point of interest to our profession is the writing of specifications. An architect, who should see in his mind's eye his idea complete, with all its variety of material, form and colour, not only in the shell of his creation but in the finishing thereof, is of course the proper person to describe what he wants. Many architects, however, cannot give the time to go so far into this branch of their profession, and are content with jotting down notes of the principal points they desire embodied in the specification, leaving the elaboration to the quantity surveyor. When one is in the habit of constantly working for an architect his various mannerisms and wishes soon become familiar to the surveyor, who can then draw the specification without much danger of many—at least serious—errors of omission or commission.

Some architects, on the other hand, favour us with a too full specification, in which one paragraph nullifies another, and perhaps both are at variance with the drawings. Of the two evils, I think most of us would prefer the former.

Perhaps reference may also here be made to the conditions of contract. It is not even now unusual to find a form issued containing a long series of clauses, traditionary in their arrangement and spirit, which probably have been learned by heart by the pupil, and subsequently adopted by him when he becomes a principal, without any very thorough analysis of their meaning, and which are made to do duty indiscriminately for all works as they come to hand, under any and all circumstances. In a form such as I have alluded to the clauses are in many cases simply repetitions, and repeat themselves with nauseating monotony. A clear form of contract greatly facilitates the settlement of the account, more especially in its relation to the question of penalties.

As by virtue of the architect's authority the quantity surveyor is most often directly employed by him, it resolves itself into the ordinary business instinct that, so far as possible, he, the quantity surveyor, should save the architect as much trouble as he possibly can. And it may thus frequently happen that in his "taking off" many items, perhaps not indicated in the specification—and often but vaguely by the plans—will present themselves. It is here that the practical knowledge of the quantity surveyor will have scope. A list can be prepared of what may have been taken under such circumstances, and at the conclusion of the "taking off," perhaps one interview between the architect and the quantity surveyor provided with such a list of notes and queries will be sufficient to clear all doubts, and then so far as the dimensions go all will be plain sailing.

There are subsidiary but important matters, too, in which the surveyor's advice and training may be of service, and should of course be tendered to the architect. I refer to the complex legal questions which may, and do, crop up in London practice, or, indeed, that of any large city—or for the matter of that, small one either. Again, in erecting a new building or buildings upon a site already covered with old structures, the question arises as to the best way of preparing the site for the new works. This, if a work of any magnitude, will resolve itself into one of two alternatives, viz.:—

1. If the whole of the old materials are cleared away.
2. If a portion of the old materials may be used in the new works.

In the first case the works in pulling-down may be measured floor by floor, beginning with walls, then floors, roofs, then the finishings, doors, windows, &c. This, carefully done, with an inner column showing the credits for the several items, is in my opinion the fairest system in which this part of the work can be arranged.

In the second case, a bill such as I have indicated above will still give the work to be done in pulling-down and clearing away, whilst the credit value would appear in the reduced rate for the concrete, brickwork, &c., in which the old materials may be reused.

Of course there are other ways in which these pulling-down works may be treated, such as tenders from house-breakers, or by daywork upon a schedule. This latter course does not, however, commend itself to me, more especially as the house-breakers' trade is carried on in a large way by solvent and responsible firms.

In connection with this clearing of ground, I may here relate an incident which occurred in my own practice some time ago. A site which was supposed by the architect to include a large *zinc*-covered flat had to be removed to make way for an addition to a—not to particularise—public building.

Tenders were asked from, I think, three firms of house-breakers for the work. The result was so far unsatisfactory that the architect instructed me to measure the work in accordance with the idea first mentioned by me in this branch of the subject. This I did. When I took the flat in hand something tempted me to scrape and clean a small portion of its covering. With what result? If the books of a large firm of metal merchants could be examined for the year of which I am speaking, they would tell that the sum they paid for the old copper from the flat was not inconsiderable. In fact, it went a long way towards paying the quantity surveyor's fees for the whole of his work.

And now a few words as to the relation of the quantity surveyor to the builder. It is a simple truism to say that the modern builder is well able to look after himself. Trained in the fierce school of competition, he is as alert and keen as needs be, and all he asks nowadays is a fair field and no favour. With his modern system of checking the quantities with his returns, whether from merchant, yard, shop, or foreman on job, any "shortage" stands a poor chance of not seeing the light, and then let Mr. Short Quantities prepare for squalls.

Another, and not infrequent cause of difference between the builder and the quantity surveyor is the insufficiency of the description of some of the items appearing in the quantities. As we are aware, owing to various causes the drawings are frequently not placed in our hands until about the time when it was expected that tenders would be invited—or, at all events, somewhat near that period. The consequence is an inevitable rush at high pressure to expedite the preparation of the bills, which are then in some cases prepared from very incomplete details and rough notes only as a basis for the specification. Thus, under the circumstances, some conflict between the builder and the surveyor may not unnaturally be expected to arise, but with tact, and doubtless the exercise of a "give-and-take" spirit, matters, unless of a very grave nature, can generally be amicably adjusted.

Another matter which may be here referred to is the pricing of items which do not particularly appear in the quantities, by reason perhaps of a section of, say, a cornice or architrave, as drawn and taken, being substituted by perhaps a larger one for some all-sufficient reason of the architect.

Recently I had a case in which the architect altered the whole of his small architraves by using a 3-inch by 2-inch section instead of the 3-inch by 1-inch as shown by the original details, and, of course, as taken in the quantities. There was a considerable quantity of this particular item, both straight and circular, in deal and pitch pine. In the hurry of the job no price was agreed with the builder for this extra, and in his account he claimed just double the contract price of the original section for the larger one, contending that, as the superficies of the section was twice that of the one he had priced, he was entitled to the same proportion of rate for the larger size. This, of course, from that gentleman's point of view was strictly correct and financially most satisfactory.

The builder, however, eventually saw that, although the section of the material was doubled, such was not the case with the labour involved in preparing and fixing it, and terms were agreed upon a somewhat more reasonable basis.

Another, and in some cases, most onerous duty of the quantity surveyor, is the measuring of works in progress for the amount of the certificate. Too much care cannot be taken in this, more especially if there should have been any serious alterations in either the details or the materials used in construction, both of which contingencies may have arisen from circumstances familiar to us all. In buildings which are being carried out in different portions as they may be required, the labour involved in measuring for certificates may easily be very great, and much responsibility rests upon the surveyor in arriving—and that with more or less rapidity—upon the amount that can justly be certified for, which, as we are all aware, generally falls short of that expected and asked for by the builder.

And now I may, perhaps, fittingly allude to a clause in our articles of association to which I earnestly draw the attention of all connected with the building trade, whether in the capacity of building owner, architect, or builder. I allude, of course, to clause 13, which explicitly lays down, "That any member of the Association who shall supply bills of quantities holds himself responsible for their accuracy, and to pay for all losses caused by his errors therein. . . ." With all sincerity I say that, in my experience, I know of no other body of professional men having had the honesty and courage to voluntarily bind themselves to recoup any losses arising from their mistakes, and this clause alone is one which makes "The Quantity Surveyors' Association" deserving of the best support of all those who desire equity in their business dealings.

The builder therefore is certain to be fairly treated by members of the "Q. S. A."

Let me pause here to say that as hon. secretary of the Association, it has come to my knowledge that certain London members of our profession have withheld application for membership by reason of the existence of the above clause.

What good reason can there be for their hesitancy? Many of these same gentlemen, when taking up an appointment as quantity surveyor to the London County Council or other corporate body which insists on the financial responsibility of those they employ, do not hesitate for one moment, to my knowledge, to commit themselves by written contract to such a guarantee as our clause 13 implies.

Surely no gentleman present, or of our profession outside the "Q. S. A.," having been guilty of an error in the preparation of his bills, but would elect to be judged by a tribunal of his expert brethren rather than at the hands of a jury of laymen.

In further reference to this clause there appeared in the *Surveyor and Municipal and County Engineer* of June 2 of this year an article on our Association, which was upon the whole decidedly of an encouraging and eulogistic description. Of this clause the writer says:—

"As things are at present No. 13 of the rules and conditions of membership appears likely to prevent many surveyors of good repute from joining the Association." After reciting this clause the writer further goes on:—"While fully agreeing that it is most desirable to make the quantities part of the contract, and that it is therefore the quantity surveyor's special duty to his client to take every precaution to render the quantities accurate, yet we must submit that for a professional man to agree to pay out of his own pocket for any errors, not necessarily due to gross negligence, is introducing an entirely novel and distinctly unprofessional course of procedure. What would a surgeon say if he were asked to agree to compensate the next-of-kin in the event of a difficult operation being attended with fatal results to the patient? We contend that this is not at all an unsuitable analogy."

While thanking the writer in question for the tenor of his remarks, I distinctly take exception to his simile. For one thing, the result of an operation such as that of which he speaks must, from its very nature, be problematical; the preparation of a bill of quantities admits of no such hypothesis, but should, if properly prepared, be as certain as that two and two make four.

In point of fact, although perhaps not so professional, I would sooner compare the preparation of a bill of quantities—to explain my meaning in this aspect of the question—to the making of a suit of clothes to measure. In this case the clothes would be expected and the tailor would engage to make them to fit the customer, from, in homely language, top to toe. It would not be satisfactory for the articles to have to be curtailed here, where loose or large, or, on the other hand, amplified there, where tight and uncomfortable, until by a series of adjustments they were so cut about and altered as to fit the person for whom they were intended.

I say that such a "turn out" would exhibit a lack of skill sufficient to justify the offender having to pay for the ignorance or negligence shown in producing such results.

So with an inaccurate bill of quantities.

Is it not only just that, as in the above example and indeed in all branches of business, one cannot misrepresent, accidentally or otherwise, the quantity or quality of our wares—be they bills of quantities, suits of clothes or any product of our hands and brains—without being liable to make good by payment of an adequate sum to cover any loss to another caused by such error?

To get back, however, to the building and our relations to the builder. I assume that at the beginning of the job, when your trenches, concrete and footings having exceeded in depth and width, owing to some unforeseen circumstances, the measurements shown on the plans, that your measurements of the actual work were checked and initialed in your dimension book by the builder's authorised representative. If the extras and omissions should be fairly large in proportion to the size of the job, there will doubtless be a surveyor on the builder's behalf to meet you, a course of which I much approve, for the reason that there is less likelihood of the necessity for worrying your architect, and that the builder, whatever the result to him, will perhaps be the more satisfied. However, whether a surveyor appears for the builder or not, I again plead for scrupulous accuracy in figures and in description.

The clearer the latter, the more easily will the pricing be done. There will of necessity be many items dissimilar to those in the priced original bills, but a keen surveyor, with a desire for absolute fairness, will not have much difficulty in approximating a price, which, when once fixed after due deliberation, should not be lightly altered.

After the above, the final adjustment of the account is a comparatively simple matter, and if the surveyor throughout this trying time has to himself been true, and brought to his work industry and integrity, then, whatever the result, whether a grumble from the building owner, the architect or the builder, he at least should feel satisfied with his work, and know that his fees have been well deserved and hardly earned.

I do not now purpose going into the question of the desirability of having quantities taken out for any proposed works. I think that question has long been settled in the affirmative by those in a position to best know, and now our leading architects are the first to insist upon the practice in justice to their clients.

The builders, of course, have, as business men, always looked upon a good bill of quantities as a safeguard and a protection, and it is now for only very insignificant matters that a firm of standing will give an estimate in competition where the quantities have to be taken off by themselves.

Although I feel that I have occupied your attention sufficiently long I should like to say a few words as to the difficulties of a quantity surveyor when called upon either to prepare or adjust a bill, when the work lies outside the domain of London practice.

As you are well aware, the differences in the mode of admeasurement of many items of work in the North, and London and the South generally, are varied and curious. And this divergence is not confined to one or two trades only, but extends to most of them.

One of our London members had recently to visit Scotland for the purpose of practice, and requested me to obtain for him, in my capacity of hon. secretary of this Association, a copy of the rules of admeasurement as affecting the district in which he would be engaged. I of course did so, and it would, I am sure, be most interesting to hear his remarks upon this branch of our subject during the discussion.

Uniformity in measurement is, I believe, making some progress throughout our profession, but a great deal remains to be done before even the London quantity surveyors agree as to the best manner to place before the builder—that standing dish of dispute—the bills of labour and materials of Bath, Portland and other stonework.

I can only just touch the subject now; generally our own practice and experience will tell us the system which will enable the estimator to best grasp the amount of labour involved in producing certain results, and with that, until some more hard and fast lines are laid down by some or the other authority, we must be content, always adhering to that fundamental principle that accuracy in all matters will earn its own reward, and that this aim carried to the legitimate end will produce a bill of quantities, the primary object of which is to facilitate and expedite the calculation of the probable cost of our building, for as our motto has it, "For which of you intending to build . . . sitteth not down first and counteth the cost?"

SOCIETY OF ANTIQUARIES OF SCOTLAND.

At the annual meeting of the Society Sir Herbert Maxwell, Bart., M.P., presided. The secretary's report of the progress and work of the Society during the past year showed an addition of thirty-nine new Fellows, while the losses by deaths and resignations having numbered twenty-one, the net gain amounted to eighteen, and the total number on the roll was 706.

The volume of the Proceedings about to be issued, of which an advance copy was on the table, contained twenty-eight papers extending to 600 pages, with upwards of 250 illustrations, many of which were of exceptional interest and importance as illustrating the results of the Society's excavations, both of native prehistoric sites and of the Roman fort of Rough Castle on the Antonine Wall. Besides some smaller investigations conducted by means of the fund for excavation of native sites contributed by the Hon. John Abercromby, a larger investigation of four forts on the estate of Poltalloch, Argyllshire, for which permission was freely given by Colonel Malcolm, R.E., C.B., the proprietor, had greatly increased our knowledge of the early iron-age civilisation of Scotland, and raised some questions as to the age and relations to each other of the vitrified forts and the other stone-built prehistoric fortresses of Scotland. The Roman fort of Barhill on the Antonine Wall, which has been excavated by Mr. Whitelaw, of Gartshore, the proprietor, a Fellow of the Society, under the superintendence of Mr. Alexander Park, also a Fellow of the Society, will be described by Mr. Park and Dr. George Macdonald in the next volume of the Proceedings. The Society is now engaged, under the superintendence of Mr. James Curle, F.S.A., Scot., Melrose, in the excavation of the Roman military station at Newstead, by far the largest known in Scotland, which has already yielded a number of surprising results. But as the means at the disposal of the Society are quite insufficient for the satisfactory accomplishment of a work of such magnitude and importance, an appeal for further funds is about to be issued, which it is hoped will enable them to carry on the work to a successful completion.

The number of objects of antiquity added to the National Museum during the year has been 726 by donation and 66 by purchase, and the number of books added to the library has been 205 by donation and 25 by purchase. Among the donations to the Museum may be mentioned a collection of 382 objects obtained in course of the excavation by the Society of the forts of Dunadd and Duntroon, Argyllshire, presented to the national collection with consent of Colonel Malcolm, R.E., C.B., the proprietor, and a collection of 114 objects obtained from the excavation by the Society of the Roman fort of Rough Castle, presented with consent of the proprietors, Mr. Forbes, of Callendar, and the Very Rev. Dr. J. C. Russel.

CAVE EXPLORATIONS IN IRELAND.

A MEETING of the Royal Irish Academy was held on the 30th ult., when Dr. R. F. Scharff, B.Sc., read the second report from the committee appointed to explore Irish caves. He said that their first report dealt with the results obtained by the committee's operations in the county Sligo. When they became aware of the success which had attended their cave explorations in that part of Ireland, they all felt anxious to know a little more of the cave fauna of south-western Ireland, where so many zoological and botanical relics of the past remained to the present day. They therefore made inquiries as to a suitable field for further researches in the south-west, when their attention was directed to a series of caves in the county Clare. In the narrative of the investigations which they had undertaken, Mr. Ussher dealt so exhaustively with this position that it was not necessary to repeat there his graphic descriptions. It was a fortunate circumstance that the member of their committee who had so successfully carried out the previous field operations, often under the greatest hardships, in the county Sligo, should have expressed his willingness to direct and superintend similar work in future. Without Mr. Ussher's enthusiasm and devotion to scientific work, further cave research would probably have had to be suspended for some time. Not only the cave committee, but all who had watched those investigations, which, from an historical point of view, were so important, were indebted to Mr. Ussher for the valuable services he had rendered. For months Mr. Ussher and his staff had toiled in the caves. When he commenced operations two skilled attendants were sent from their National Museum to assist him. The procedure adopted in the work was to carefully remove the surface layer of the caves, after having, as far as possible, taken accurate measurements of the size and extent of the subterranean passages. The objects and implements found in not over 2 feet of earth were removed to the mouth of the cave, and were then collected and transferred into parcels. The lower stratum was similarly dealt with. The parcels were then forwarded to the National Museum, with notes on the most important objects found. Every object had to be numbered, so that it might be possible to determine the exact position which it had originally occupied in the cave, both vertically and horizontally. Worked out in that system, the objects and bones found in the caves should give them a complete history of the events which happened in the districts surrounding the caves from the present day to the dim ages of the past, long before man learned to write a history of the country, or perhaps even before man's appearance in Ireland. Unfortunately the committee were unable to secure the sympathies of the badger in procuring an unbroken record of those events. Badgers had apparently inhabited the caves periodically for a long time past, and during their stay they had utilised their powers extensively in tunnelling in various directions and disarranging considerably their natural sequence. Altogether Mr. Ussher had sent about 50,000 bones from the Edenvale caves, and about 20,000 more from the New Hall and Barntick caves to the Museum. Besides these there were a number of geological specimens, in reference to which Professor Cole had given a valuable report. In conclusion Dr. Scharff said that the committee tendered their thanks to Mrs. Stacpoole for her untiring hospitality, and for the aid which she rendered in every possible way during their prolonged sojourn on her property. They also thanked Mr. Richard Stacpoole for permitting them to work the caves.

Mr. Ussher then exhibited a number of views of the caves, describing their galleries and recesses and the objects of interest, which included a gold bracelet, bones of the Irish elk, a skull and other portions of the anatomy of man, remains of birds, prehistoric implements, &c.

GREEK SCULPTURE.

A LECTURE was delivered at the Sheffield University on Saturday by Mr. E. S. Forster (late student of the British School of Athens), entitled "Illustrations of Greek Sculpture." The matter, he said, was an important one, as it showed a side of Greek intellect that was not illustrated in literature. Greek art was divided into four periods, the first being in the sixth century, B.C., when there was a gradual attainment of mastery over material. Immediately after the Persian wars, and largely as a result of them, the golden age of Greek art suddenly dawned, the age of Myron, Polycletus and Phidias, these names marking the zenith of Greek art, and their work was typical of the characteristics which the Greek of the best period most admired—majesty, beauty and wisdom. It was the golden age not only of Greek art, but of sculptural art. In the next period, the fourth century, the high traditions of Phidias and Polycletus were still carried on by Praxiteles and Scopas, but both these artists fell somewhat short of the high idealism of the fifth century, and introduced two dangerous elements, a sensuous element and an element of exaggerated passion. In the Hellenistic age those two elements were exaggerated, and the culmination of that tendency was to be seen in the distorted features of the "Laocoon." But the Hellenistic art had its pleasing side in its charming rendering of child life, and many of the greatest masterpieces which had survived to the present day belonged to that period, such as the Venus of Milo and the Hermes of Anticythera. It was many centuries before the influence of Greek art died away. It survived in Roman art, and passed away only with the fall of the Western Empire, and when the dark centuries of the Middle Ages passed away the supremacy of Greek art again asserted itself. Perhaps the most striking characteristic of Greek art was simplicity. In Greek sculpture there was nothing extravagant, mysterious, or bizarre. Greek art, like Greek architecture, poetry, philosophy and geometry, was constructed with the utmost simplicity as compared with the more complicated products of modern Europe, and herein was its chief attractiveness and educational value. It exhibited the working of a race whose civilisation was simple and harmonious, and a race which stood out as the natural aristocracy of the ancient world. Modern life was more ambitious and complicated. We had learned the ways of progress as the Greeks never learned them, but there was something we had lost—a freshness, a directness and a charm which was inherent in Greek art and literature, and which had always appealed to the greatest intellects. This freshness and charm could nowhere be so easily demonstrated and appreciated as in the surviving monuments of Greek sculpture.

GENERAL.

The Bishop of London on Saturday dedicated the three bays of the east cloister which have been restored in St. Bartholomew the Great, Smithfield. The reclamation and restoration of the secularised portions of the church were commenced twenty years ago, and have been completed at a total cost of 35,000*l*. The work in the east cloister was carried out under the direction of Sir Aston Webb, R.A.

The International Society of Sculptors, Painters and Gravers have decided that the best memorial of Mr. Whistler, their late president, would be a public monument in Chelsea, where he spent the greater part of his life and executed his most important works. It is also proposed that, should sufficient funds be subscribed, replicas of the memorial shall be erected in Paris and in the United States. M. Auguste Rodin, the present president, has consented to carry out the work. It is estimated that the total cost of the Chelsea memorial will be 2,000*l*.

Sir James Guthrie, president of the Royal Scottish Academy, has accepted the commission to paint a portrait of ex-Lord Provost Barrie, Dundee.

Mr. C. H. Heathcote will give a lecture on "Some Lessons from American Methods" at the meeting of the Manchester Society of Architects on Thursday next.

The King's Norton Education Committee announce a competition for the erection of a new Council school of three departments, to accommodate 400 scholars in each department.

The Camberwell School of Arts and Crafts opened its annual exhibition on Monday, and it will remain open until the 18th inst. The work comprises specimens of architectural and furniture design, carpentry, stained-glass work, stone and wood-carving, painting and decoration, &c. The rooms are opened from 2 P.M. to 10 P.M.

Mr. Mervyn Macartney, who has been appointed by the Cape Government assessor for the New Law Courts competition, left England by the *Saxon* on Saturday, and will be away until the middle of February.

The Statue of Sir Robert Clifton, at Nottingham, on account of its ugliness, was recently taken down and removed to the Corporation depôt. The few surviving subscribers to the fund which provided the statue were so indignant, however, and managed to raise so much popular sympathy, that the statue has been re-erected. Its new site is on the riverside on the outskirts of the city, in the midst of a clump of trees.

Mr. Gilbert Scott submitted to the Liverpool cathedral committee on Monday working drawings of the cathedral, and a report was read as to the progress of the foundation works, which will be completed by the end of February. A specification upon which tenders will shortly be invited was also placed on the table.

Demonstrations or itinerant lectures will be given in the Dublin Museum by the director, Colonel Plunkett. The collection is now varied, including examples of Byzantine architecture, Italian bronze, Irish and English silver, model of lake dwelling, furniture, Egyptian antiquities, to which Lord Grenfell has just added some specimens of Persian glass, &c.

The Royal Sanitary Institute received thirty-one essays in the competition for the Henry Saxon Snell prize, for which the subject was "Domestic Sanitary Appliances, with Suggestions for their Improvement." The Council state that "the majority of the essayists gave a more or less complete and generally well-illustrated description of existing sanitary appliances, pointing out which they considered the best, and the proper mode of fixing them, but failed to comply with the most essential condition of 'suggestions for their improvement.'" It is not considered that any of the essays are worthy of the prize, which will be withheld.

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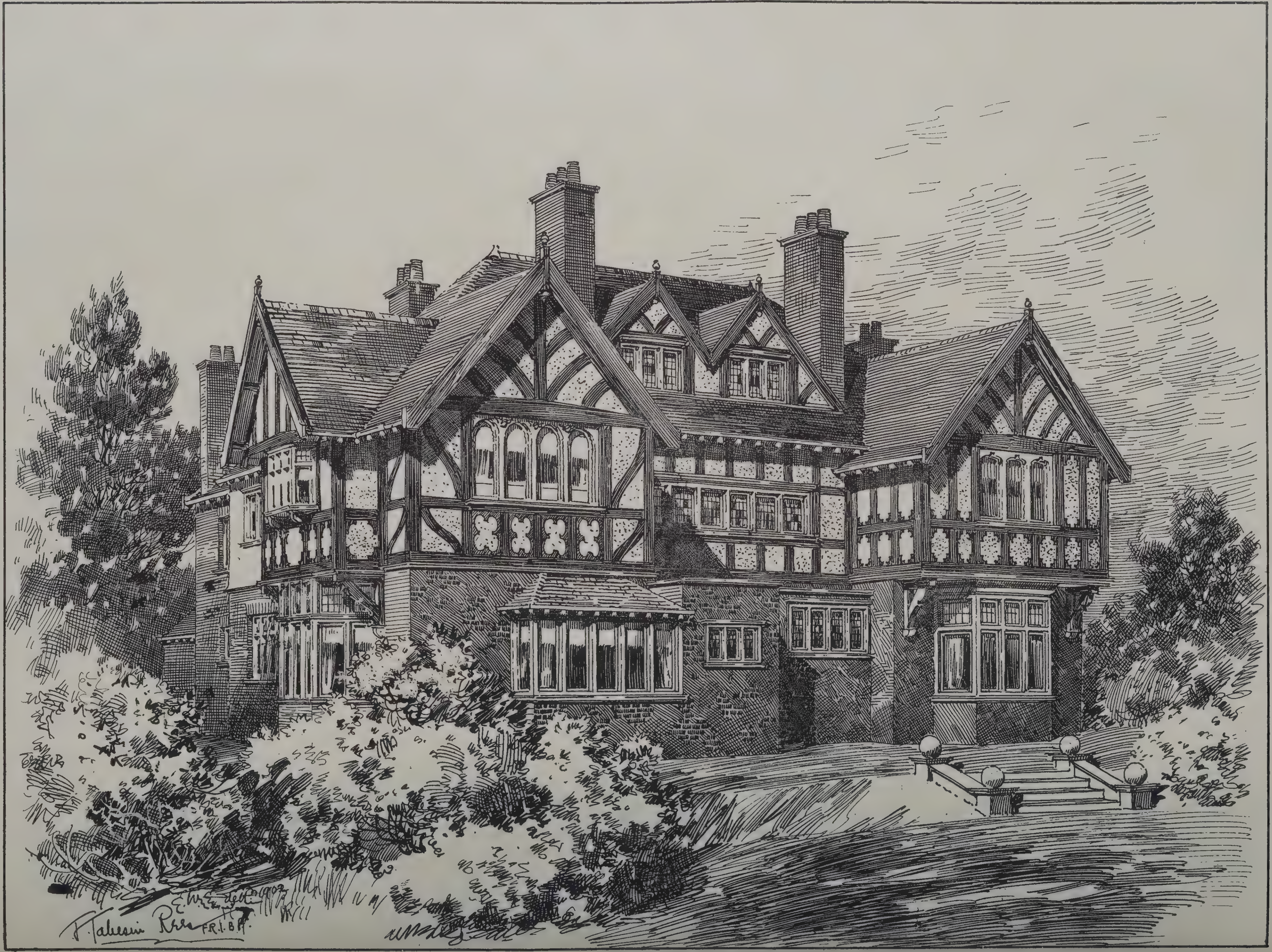

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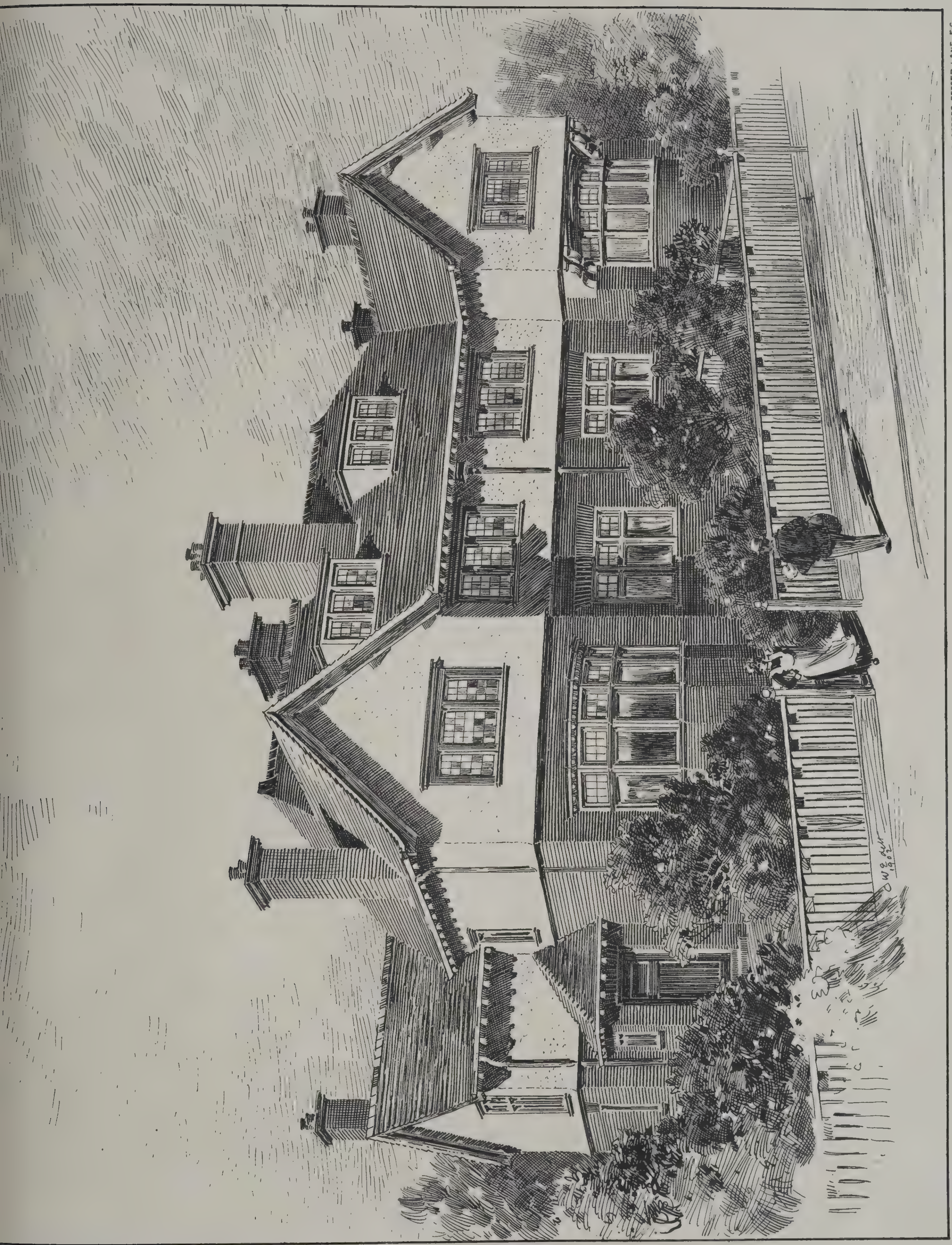

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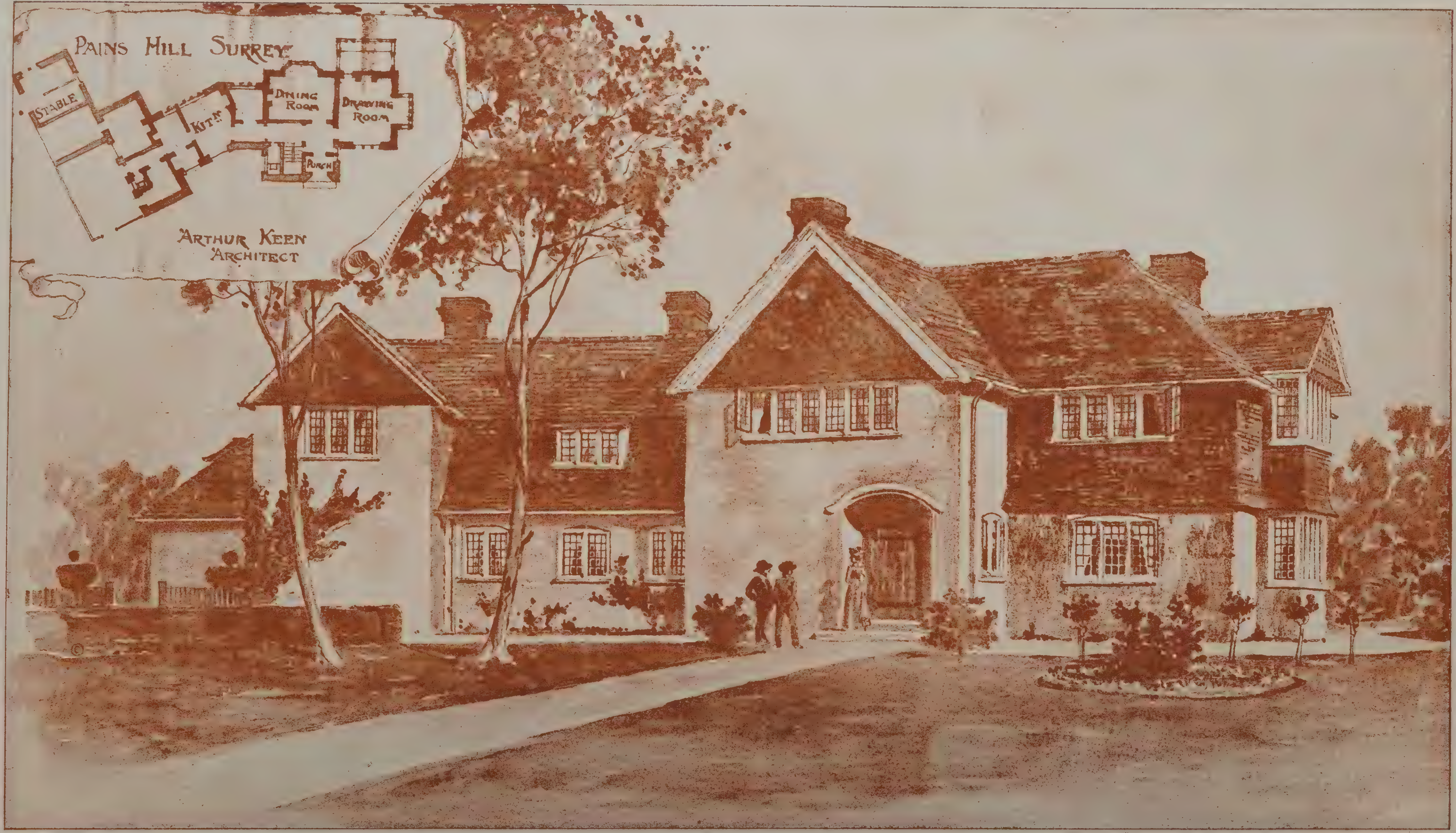

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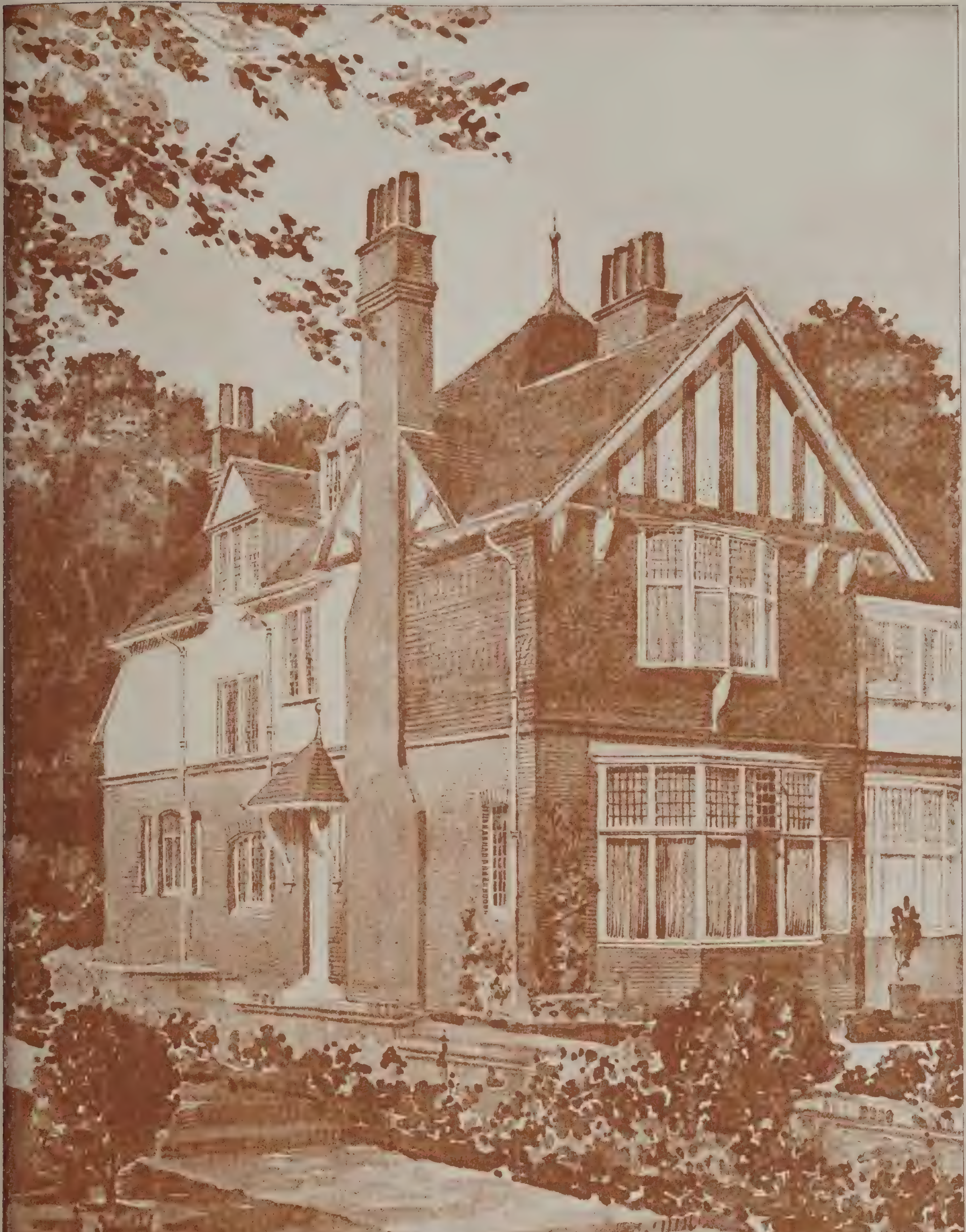

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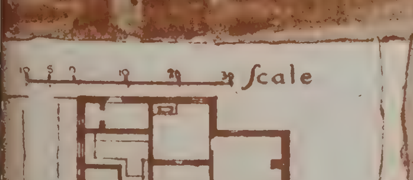

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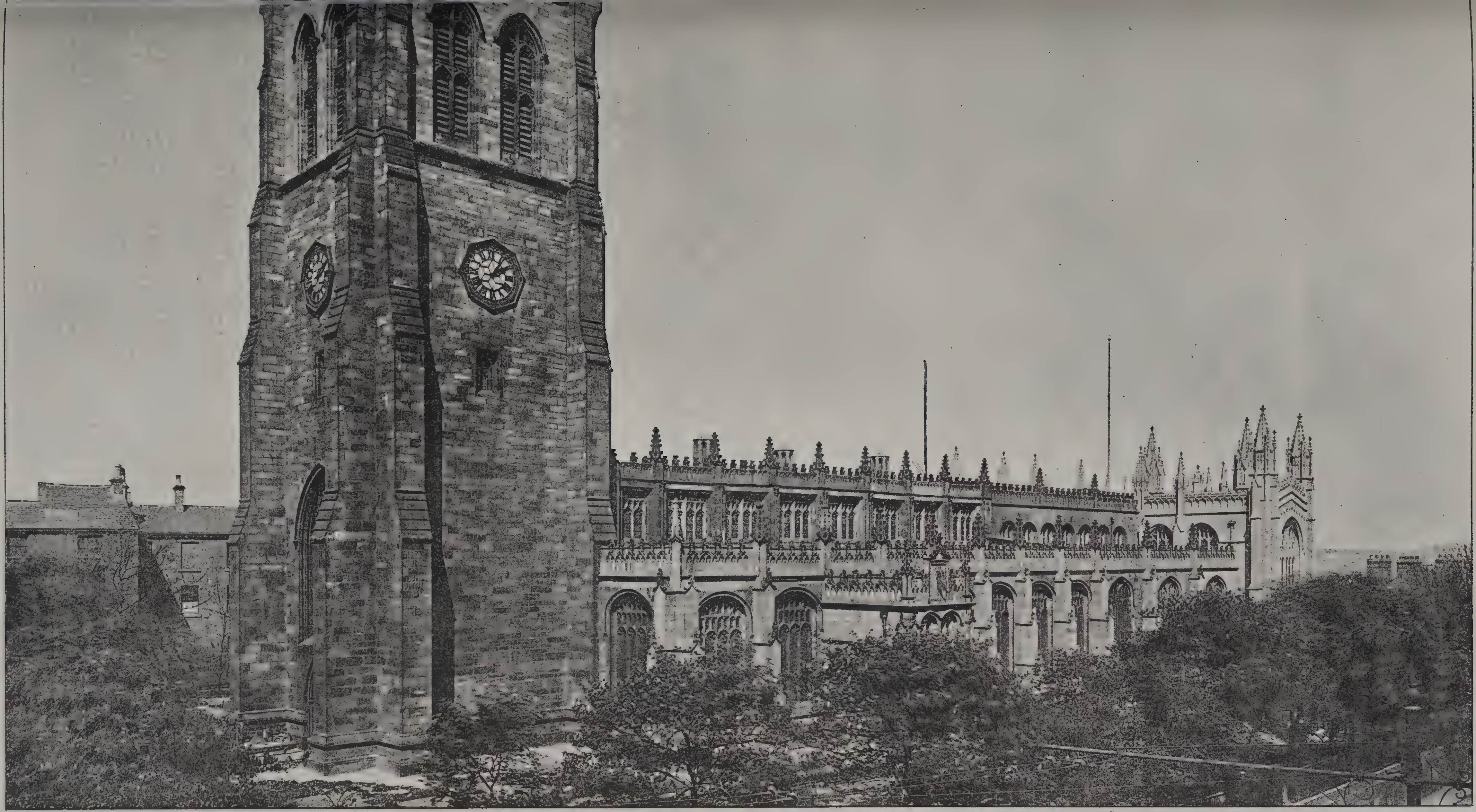

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CATHEDRAL SERIES, No. 544.—WAKEFIELD: GENERAL EXTERIOR.

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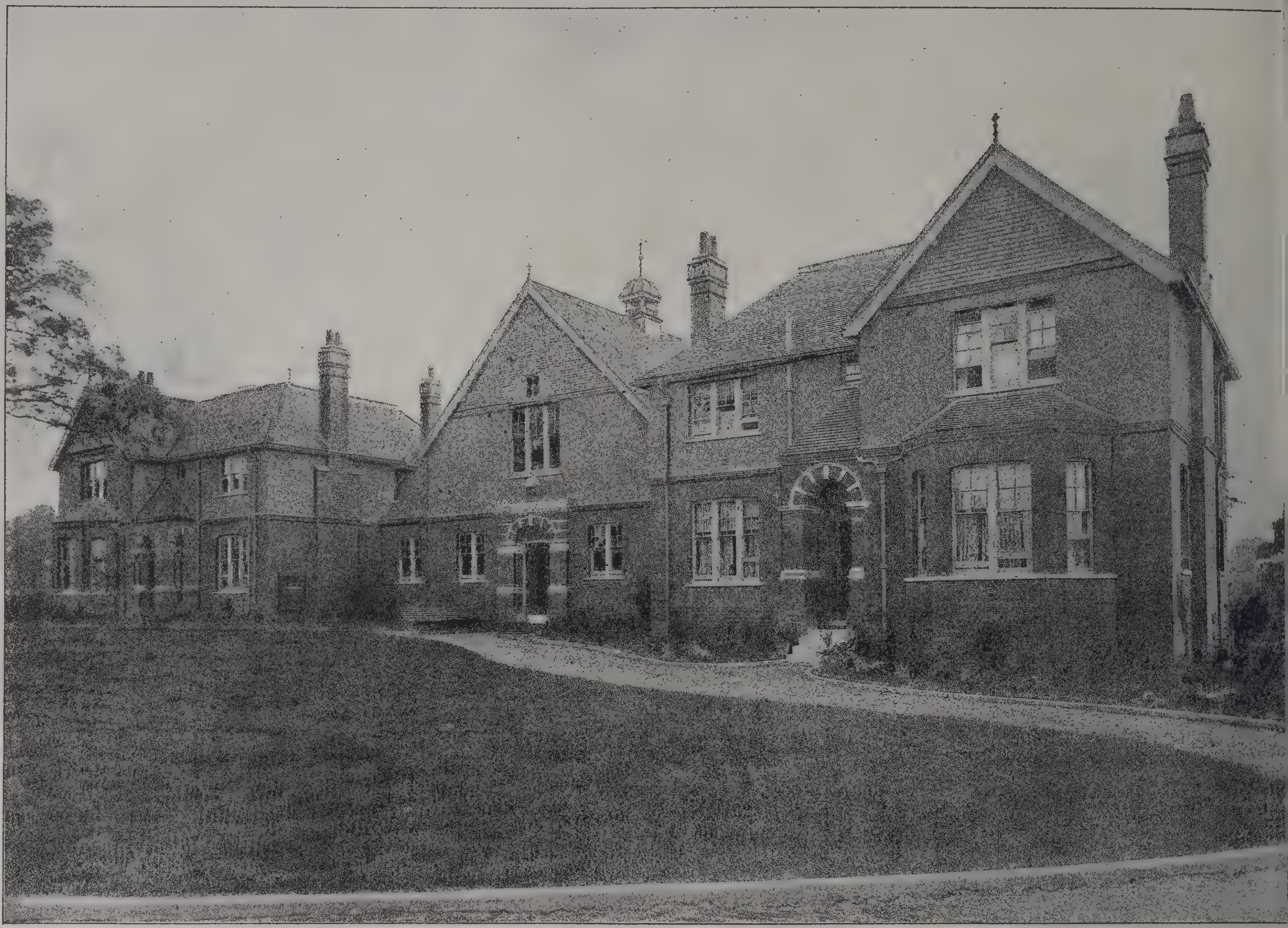
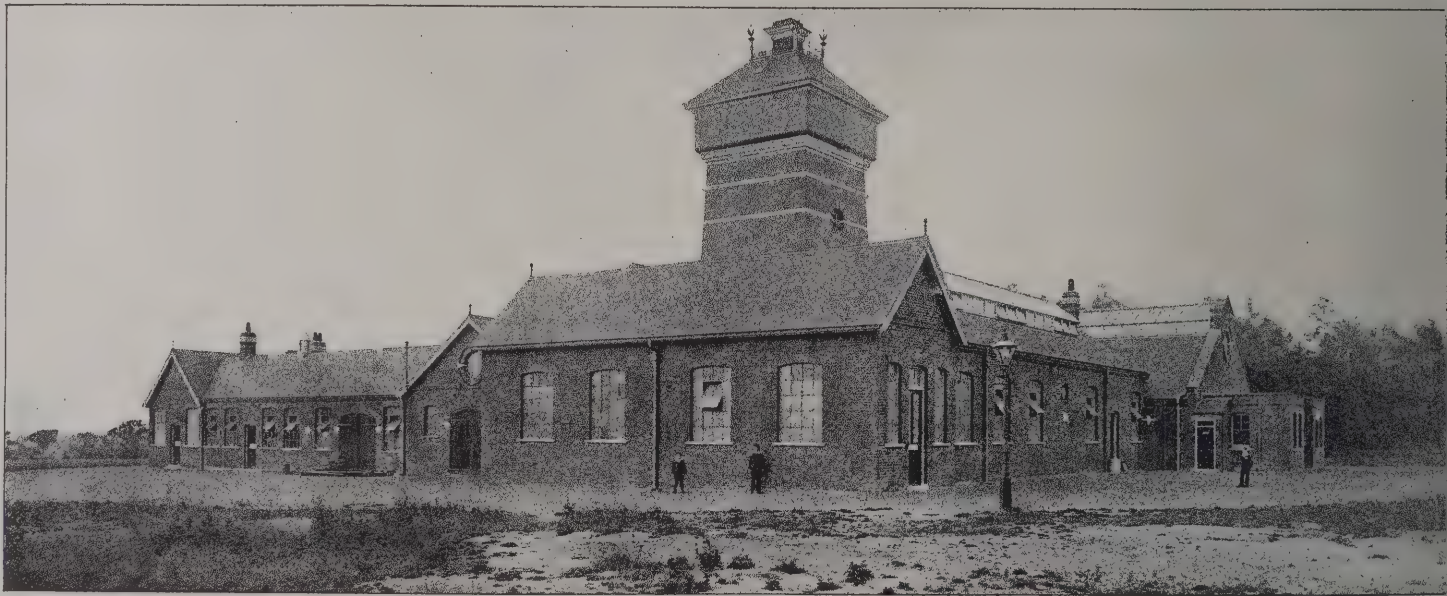
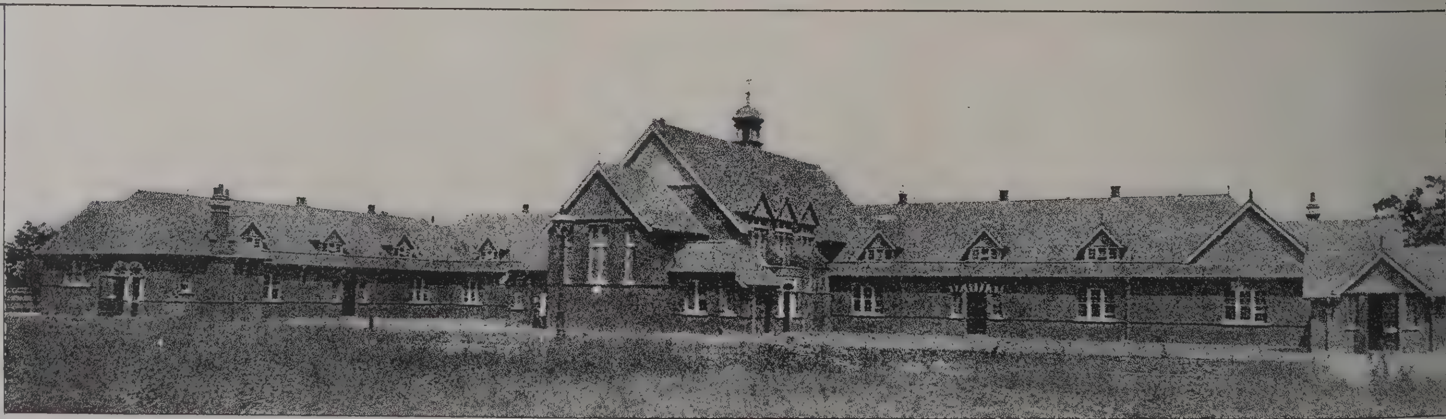
UNIVERSITY of ILLINOIS



Administration Block, Front Block.



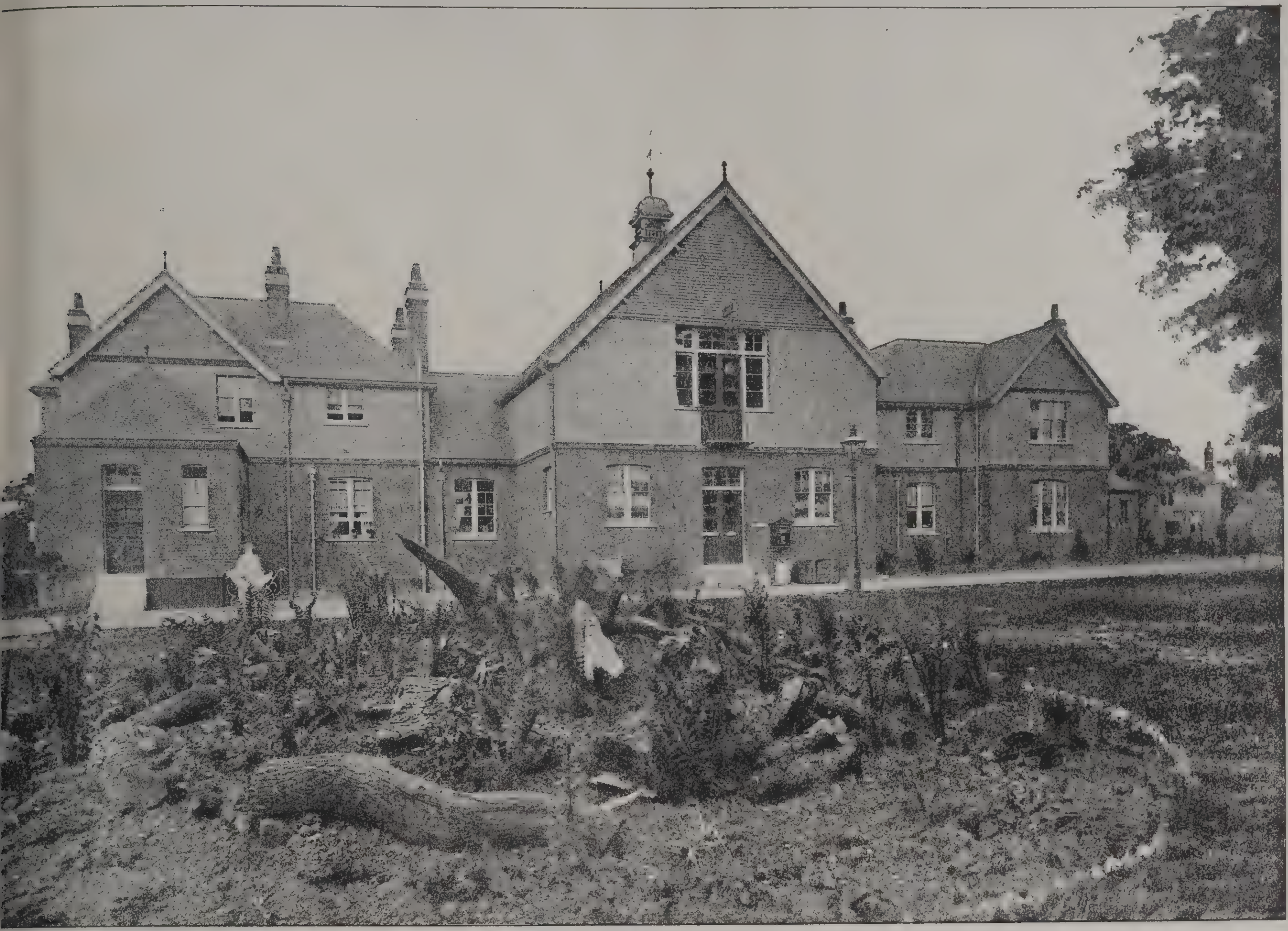
Laundry, &c.



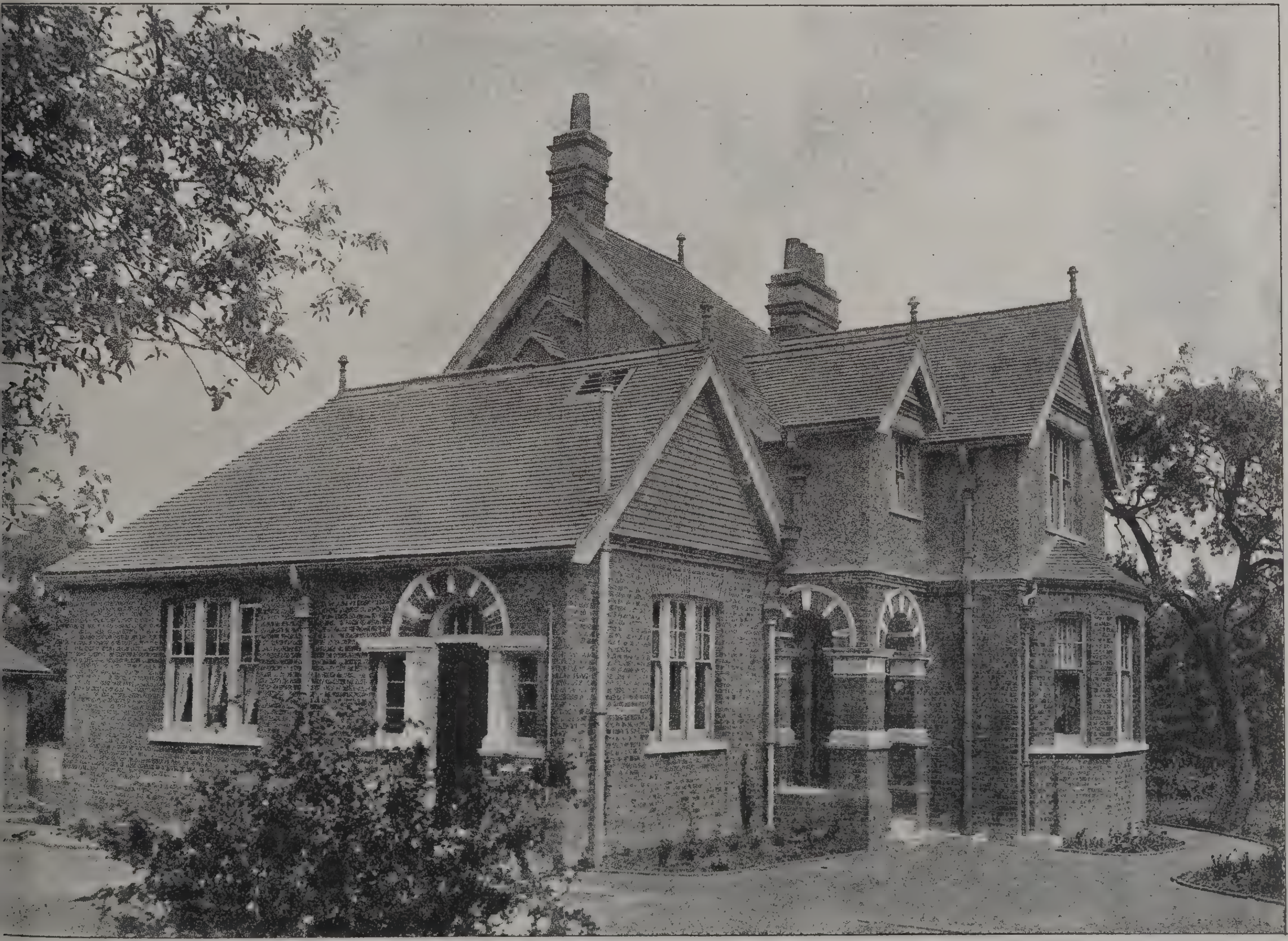
Schools.

SHIRLE

Messrs. NEWMAN



Administration Block, Goods Entrance.



Porter's Lodge.

"INK-PHOTO" SPRAGUE & Cº Lᵀᴰ 4 & 5 EAST HARDING STREET FETTER LANE, E.C.

IOOLS.

MAN, Architects.

LIBRARY
OF THE
UNIVERSITY of ILLINOIS.

The Architect.

THE WEEK.

A very few weeks have elapsed since it was mentioned in these columns that the Duke of Sutherland had taken an action against the local authorities for injury to Trentham Hall through defective sewers. We suppose the lawsuit has been abandoned, for his Grace has presented the building to the county for the purposes of higher education. How it will be utilised has yet to be arranged, but probably it will be converted into a technical college which will have special relation to the pottery and other industries of the county. The property at one time belonged to the Levesons, but it was afterwards acquired by Lord Stafford. The grounds are beautiful, and there is a lake which has an area of about 80 acres. In the eighteenth century an iron bridge, 90 feet span, was constructed there. The mansion was altered at various times, but it derives its interest mainly from the alterations which were carried out under the direction of Sir Charles Barry. To the old building containing the state reception-rooms he simply gave a better cornice and improved its details, adding, moreover, a grand entrance hall, which served also as a billiard saloon, and communicated with the state-rooms by a semicircular corridor. He succeeded also in grouping together very effectively the straggling offices of the great house. Though he could not effect all that he wished, he was able thus to give some grandeur and unity to the large mass of building. He also designed the private wing. But what gave most pride to the architect was his success in laying out the gardens and grounds. Loudon considered that nothing could be done with such a great flat place, with a mansion as tame and spiritless as the grounds. He bore tribute to Barry's success in the transformation of the place.

The Hayward's Heath Urban Council have obtained plans for the erection of a new school. One of the members, who is a medical practitioner, has objected to the proposed arrangement, inasmuch as the greater part of the building would face north-east, and that would not be advantageous. Reference was made to a report of one of the inspectresses appointed by the Board of Education to consider the arrangements for the training of very young children. The following remark was quoted:—"It seems extraordinary what pains local authorities and architects take to exclude the sun when planning and building schools. If building a house for themselves and their families they arrange that at any rate the nurseries and schoolrooms shall be light and sunny. . . . Yet all concerned strive to exclude the sun from the buildings erected at large cost to house during their time of school life the children of the poor. Hundreds, nay, thousands, of the children of this sunny realm of England, children belonging to an Empire on which the sun never sets, are condemned to spend their school days in rooms in which the sun never shines." There should be no difficulty on the subject, for the official rule states that a site open to the sun is especially valuable for children, and important in its effects on ventilation and health.

The late John Stewart-McCaig, of Muckairn, Soroba, and Oban, must have been intended to aid the sculptor's art. He left an estate valued at between 2,000*l.* and 3,000*l.* yearly, besides other property worth 10,000*l.* The whole of the income derived from the property he bequeathed for the purpose of erecting monuments and statues of himself and his brothers and sisters, which were to be placed on the McCaig Tower above Oban. In order that there might be no doubt about his intentions, in a codicil he declared "that I particularly want the trustees to erect on the top of the wall of the tower I built in Oban, statues in large figures of all my five brothers and of myself, namely, Duncan, John, Dugald, Donald, Peter, and of my father, Malcolm, and of my mother, Margret, and of my sisters, Jean, Catherine, Margret and Ann; and that these statues be modelled after photographs. And where these may not be available, that the statues may have a family likeness to my own photograph or to any other member of my foresaid family." Evidently it was his desire to aid young Scottish sculptors and architects by giving them commissions for statues and towers. An effort was made by some of the deceased banker's relatives to have the will set aside. Lord Dundas, before whom the case came, arrived at the conclusion that there was no vagueness or uncertainty in the arrangements. It was expressly stated by Mr. McCaig that "My wish and desire is to encourage young and rising artists, and for that purpose prizes be given for the best plans of the proposed statues, towers, &c., before building them." His Lordship said it was plain that the statues were to cost not less than 1,000*l.* each, and were to be produced by Scotch sculptors. The term "artistic towers" was by itself one of somewhat obscure scope and import. But the trustees were directed to give prizes for the best "plans" of the proposed towers before building them, and with the aid of the artists and sculptors there need, his Lordship thought, be no difficulty in arriving at a practical definition of what ought to be included in the words. Again, it was objected that "young and rising artists" were a class too vague to be capable of definition. But he thought that the phrase was certainly not more indefinite than "poor struggling youths of merit," which in a very recent case was held to be valid and not void from uncertainty. It is to be hoped that other wealthy bankers will imitate the worthy Mr. McCaig, for there are plenty of young and rising artists who would be gratified by commissions for statues of humble people like a banker's relations, and as for the artistic towers, there need be no limit to their number or height.

The Heriot-Watt College is one of the most successful among the numerous educational establishments of Edinburgh. Of late years practical or industrial art has been taught in the classes, besides the ordinary courses of an art school. Last year Mr. E. A. Walton, A.R.S.A., who is a painter, reported to the Scottish Education Department that "the school is worked on excellent lines, and the staff of masters over all is good. In the classes for drawing and painting from the antique and life, I found the work reached a high standard." This year Mr. Pittendrigh Macgillivray, R.S.A., a sculptor, acting as Government inspector, visited the college. His report is less satisfactory. He admits that fairly good work was done in drawing from the cast, but the benefit was out of proportion to the time spent upon it. With the modelling class he was disappointed, for he found "the students engaged in modelling bas-relief ornaments from small photographs: in some cases making enlargements to the extent of ten times lineal." The classrooms were not properly equipped, and in the painting class "too little regard is paid to quality of colour, the study of balance in quantity and effects in harmony and contrast. The colours being used were such as to lead one to suppose that there was no good clean paint available. The class is in need of being overlooked by someone with artistic training and good taste." The Governors in their reply controvert Mr. Macgillivray's conclusions. They say their aim has been to attract the actual workman and to improve him in the trade he is carrying on, and not to create classes which are merely attended by the artistic amateur. In carrying out this object the Governors have been exceptionally successful, and they have only succeeded because they have carefully studied actual trade requirements, and while giving the student a broad general education in art, have not neglected his special needs.

THE ARCH-PRERAPHAELITE.[*]

A COUPLE of centuries hence men may be found who will take an interest in the nineteenth century like that now shown towards the eighteenth. They are likely to be puzzled when they read about the turmoil of which the pre-Raphaelite movement was the cause. Assuming that there was some operative force in question, the inquirers will look for the results, which will be ascertained with difficulty. Pre-Raphaelitism was jealously restricted to a very few young artists. Nearly all of them soon ceased to recognise the principle which was involved, and eventually Mr. Holman Hunt could be considered as resembling Abdiel, and to be the only faithful one amidst the faithless. He in truth is the arch-pre-Raphaelite, a title which was once in derision applied by Woolner to Rossetti.

In his new work Mr. Holman Hunt narrates the history of the origin as well as of the decline of pre-Raphaelitism, and hereafter some critics may doubt whether he has not taken too much pains in describing his temporary disciples. But if the two volumes are considered less as a history than as an autobiography, they must be esteemed as among the most interesting of their class in English literature. They are as characteristic of the author as any of his paintings. We find the same love of detail, fidelity of representation, vividness, and indifference to conventional rules. As in his pictures, everything seems to be of equal importance, and to be introduced out of admiration and affection. Mr. Hunt does not adopt the airs of a founder of a sect or of an inspirer, but from using pre-Raphaelitism as if it were the principal object in his pages, and he were simply a narrator, the obtrusiveness which offends in so many autobiographies is avoided.

It is not unlikely that our imaginary critic in a future time will ascribe pre-Raphaelitism to the influence of Thomas Carlyle. To generous young men of many kinds in the middle of the nineteenth century he was believed to preach a new gospel, in which honesty, truth and hatred of all shams were to be paramount. Mr. Holman Hunt was among those who fell under his spell. In describing the time when he too lived in Chelsea, he says:—"I had read all his books that I had been able to buy or borrow, and with all the reverence of my nature I had seen the living prophet rambling along the streets of the neighbourhood, bent down, as it seemed, with the weight of sad wisdom—for joy it never seemed to have brought." According to Carlyle, the fine arts were in 1850 not only the throne of hypocrisy, but the highest of her many thrones; they were divorced entirely from truth and wedded almost professedly to falsehood, and were destined, if they did not die, to get flown away with by the Devil. Even *The Light of the World*, when Mr. Holman Hunt had the courage to show it to Carlyle, was treated most disdainfully on account of the absence of veracity. Carlyle asked the painter, "Do you ever suppose that Jesus walked about bedizened in priestly robes and a crown, and with yon jewels on His breast and a gilt aureole round His head?" That picture, although it did not please Carlyle from its inception, should at least have found favour with him from the marvellous labour bestowed on the details. It is only necessary to look at the sketches for the lantern which the Redeemer holds (it cost 7*l.*, a large sum to a poor artist) to realise that the simplest object required elaborate studies. The picture which appeared so unmeaning to Carlyle was interpreted by Ruskin, who said he spent upwards of an hour before it, and whose conclusion was that it is one of the noblest sacred works of art ever produced.

The love of truth in the artist was not, however, inspired by Carlyle, although strengthened by him, for it was innate with Mr. Hunt. In his first visit when a lad to the National Gallery, an official of whom he asked information told him in the usual style of cicerones that the *Bacchus and Ariadne* was one of the finest specimens existing of the greatest colourist in the world. When, in reply to the question whether he did not see its beauty, the visitor said that it appeared as brown as his grandmother's painted tea-tray, we see a revelation of that instinct for colour as it is in nature, without being muddied in order to agree with professional rules. *Venus attired by the Graces* on the same occasion offended him by its pretentiousness, and vapid canvases in other rooms lowered his enthusiasm still more. His preference for Francia's *Dead Christ* and Hogarth's realistic *Marriage à la Mode* indicated tendencies which prevailed in the course of a few years. In those days literature relating to the arts was difficult to obtain by poor students, but he acknowledges that the illustrations in the *Penny Magazine* aided in his education. He received lessons from a drawing-master named Rogers, and he tried to paint from nature. He showed his painting to the master, who evidently was inspired by the belief that nature obediently corresponded with the principles then in vogue. He was told by him:—

> "You haven't any idea of the key in which nature has to be treated; you must not paint foliage green like a cabbage; that'll never do. You say that the ivy on the tower, and still more the grass below, was very bright green, but no one with a true eye for colour sees them so. Constable, who is just lately dead, tried to paint landscape green, but he only proved his wrong-headedness; in fact, he had no eye for colour. I'll show you a small picture I did when last in the country; there now, you see all the trees and the grass, which an ignorant person would paint with greens, I've mellowed into soft yellows and rich browns." It was so, and it looked most masterly and exemplary. I could not say that nature ever put on that aspect towards me, but he said encouragingly that if I worked in the right way an eye for nature might come at last.

Throughout his career many other censors found fault with Mr. Holman Hunt because he attempted to represent things in nature as he saw them. At one time "Claude glasses" were used by some landscapists in order to give a new and improved appearance to nature. The judges of art in the middle of the nineteenth century believed that subjects for painting could only be seen properly through the eyes or glasses of men who were famous for distortions.

We can readily understand why the drawing by a youth who was accustomed to use his own eyes was not approved when he sent it in to obtain admission to the school of the Royal Academy. He was not discouraged, and continued to work in the sculpture galleries of the British Museum. It was there Mr. Holman Hunt first met Millais, who was two years younger than himself, one being fifteen, the other seventeen years of age. He also painted in the National Gallery, and was able to sell some of his copies. Practically he was self-taught, and one anecdote suggests his gratitude for receiving a little instruction from a stranger:—

> The first surprising illumination which I received, and one, moreover, which in some ways determined a great change in the course of my artistic life, came about in this wise. While engaged in copying "The Blind Fiddler" a visitor looking over me said that Wilkie painted it without any dead colouring, finishing each bit thoroughly in the day. The speaker was Claude Lorraine Nursey, some years afterwards master of the School of Design at Norwich; he had been Wilkie's pupil, and had been taught his then singular practice, which he exemplified later by showing me his own work. I tried the method, and I now looked at all paintings with the question whether they had been so executed. I began to trace the purity of work in the quattrocentists to the drilling of undeviating manipulation with which fresco-painting had furnished them, and I tried to put aside the loose, irresponsible handling to which I had been trained, and which was nearly universal at the time, and to adopt the practice which excused no false touch. I was not able to succeed completely in all parts of my work, but the taste for clear forms and tints and for clean

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[*] *Pre-Raphaelitism and the Pre-Raphaelite Brotherhood.* By W. Holman Hunt, O.M., D.C.L. Two vols., with photogravure plates and other illustrations. (London: Macmillan & Co., Ltd.)

handling grew in me; while at the same time I wished to guard myself against a slavish imitation of the quattrocentists, which was then becoming a seductive snare to certain English painters.

The last sentence refers to the time when Gothic was revived in England. Mr. Holman Hunt says that both he and Millais regarded Gothic "as a deadly blight upon the fair blossoms of advancing taste, seeing it was causing destruction to edifices of vital beauty and past history, while to the artist it was paralysing all inventive genius." He condemned the restorations in Oxford as strongly as Ruskin did. From what has been said it will be apparent that when at length Mr. Hunt obtained admission to the Academy Schools he might be considered as a practising artist and in an academic sense one who had much to unlearn. There he again encountered Millais, who showed friendship and quickly brought him to the house in Gower Street where the young genius was living with his parents. Everything relating to Millais, no matter at what period of his life, is delightful reading, and Mr. Hunt evidently has pleasure in narrating reminiscences of his friend. In those days it was interesting to observe the difference between the two. Mr. Hunt was the teacher and spoke about the British School skipping the training that led to the making of Michel Angelo, and held that children should begin as children and wait for years to bring them to maturity. Millais had always a shrewd notion about the value of money and position, and he believed that although Mr. Hunt might be correct, his theories would not lead to success. Millais painted a *Cymon and Iphigenia*, which was to exemplify a recognition of some of Mr. Hunt's theories, but it was rejected at the Academy. Mr. Hunt's *Eve of St. Agnes* was exhibited, and it was purchased as an Art Union prize for 70*l*., and with this money he was able to leave his father's house and to set up a studio. Dante Rossetti joined with him, and soon a band of artists was formed, who constituted the pre-Raphaelite Society. According to Mr. Hunt, Millais, Rossetti, Woolner and himself should alone be considered as its representatives. It must not be supposed that pre-Raphaelitism, a name that was conferred by chance, was in any way adopted out of disapproval of the methods of Raphael. Mr. Hunt tells us of their true aims:—

> Not alone was the work that we were bent on producing to be more persistently derived from nature than any having a dramatic significance yet done in the world; not simply were our productions to establish a more frank study of creation as their initial intention, but the name adopted by us negatived the suspicion of any servile antiquarianism. Pre-Raphaelitism is not pre-Raphaelism. Raphael in his prime was an artist of the most independent and daring course as to conventions. He had adopted his principle, it is true, from the store of wisdom gained by long years of toil, experiment, renunciation of used-up thought, and repeated efforts of artists, his immediate predecessors and contemporaries. What had cost Perugino, Fra Bartolomeo, Leonardo da Vinci and Michel Angelo more years to develop than Raphael lived, he seized in a day, nay, in one single inspection of his precursors' achievements. His rapacity was atoned for by his never-stinted acknowledgments of his indebtedness, and by the reverent and philosophical use in his work of the conquests he had made. He inherited the booty like a prince, and like Prince Hal, he retained his prize against all disputants; his plagiarism was the wielding of power in order to be royally free. Secrets and tricks were not what he stole; he accepted the lessons it had been the pride of his masters to teach, and they suffered no hardship at his hands.

Some of the members were not disposed to take that view, for Rossetti would have them known as the Early Christian school. Whatever might be the title, they were assailed with criticism of a kind that was almost unknown. If they were conspirators against the British Constitution or the Established Church they would have been held in greater respect. It was not politic, especially in a revolutionary year, to declare that "there was no immortality for humanity except that which was gained by man's own genius or heroism." After the manner of the Comtists, a list was made out of the men who were recognised as immortals, among them being Patmore, Poe, Leigh Hunt, and the author of "Stories after Nature." Although the declaration might not be known, there was a suspicion of it, and people who met members or hangers-on of the brotherhood used to speak of them as if they drew all their inspiration from Voltaire, whose name was not included among those on whom they had conferred immortality. Ignorant people might be excused, after hearing doubts about the orthodoxy of the artists, for being prejudiced when they saw such pictures as Millais's *Christ in the House of His Parents* and Rossetti's *Annunciation*. Charles Dickens, who was not distinguished for his knowledge of painting, wrote an article on the former which, however exaggerated, expressed the spirit of the time. It was no wonder that those of the brotherhood who had to depend on art for a living grew alarmed. Mr. Holman Hunt was glad to accept a guinea a day for cleaning and restoring Rigaud's paintings at the Trinity House, and he looked on the work as fine fun. He says that no one would have a portrait by him, while "my name was treated as a proverb of ignorance and wrongheadedness little short of criminality." The letters which Ruskin wrote restrained the clamour. But financially there was no immediate benefit to Mr. Hunt. Indeed, he thought it would be wise to emigrate and take up some other pursuit, and it was only through the kindness of Millais that Mr. Hunt was enabled to remain in England.

It will suggest the earnestness of Mr. Hunt at that disturbed time when he is found painting *The Light of the World* in the open air at night. He had a sentry-box formed of hurdles, and sat with his feet in a sack of straw. Of course, he was taken for a ghost; for, although other artists had painted at Ewell in the open air, it was in the daytime. Another effort, and a more important one, to secure realism was the resolution to visit the unchanging East in order to attain as much accuracy as possible in his Scripture pieces, of which the first was *The Finding of Christ in the Temple*. He took great pains to obtain types that would be Jewish and adapted for Rabbis. It was not an easy task. There were difficulties in finding models, and at last, in spite of his resolution, Mr. Holman Hunt abandoned the Temple scene for *The Scapegoat*. Although the subject of the latter picture was one which should be familiar to all who read the Old Testament, yet neither M. Gambart, the picture-dealer to whom it was first offered, nor his friends, were able to understand the pathetic scene. But the most remarkable of the artist's works are those which were painted in Palestine. The second volume of Mr. Hunt's book is mainly occupied with an account of his residence at various times in the East. For, as we have said, the brotherhood was by fate as little united as King Arthur's Round Table. Mr. Hunt claims that it was a factor in the improvement of British art. In one place he says that the pre-Raphaelite combination brought continuing misfortune to its originators, while to its nominal members it has been a lifelong source of fortune. Those misfortunes have, however, revealed the manliness and perseverance of Mr. Holman Hunt, whose volumes should be read as an encouragement by all artists who have to encounter difficulties which are inevitable.

Mr. James Scarlett, of Bowdon, Chester, and of Messrs. E. Green & Sons, engineers, Manchester and London, who died on September 23, bequeathed 1,500*l*. to the Manchester Corporation for a scholarship for proficiency in art at the Manchester Municipal School of Art, for a female of the industrial class who has resided for three years within ten miles of the Manchester town hall, and a similar amount to the Manchester Victoria University for a scholarship in engineering, to be awarded to a male of the industrial class under like conditions.

NEW BOOKS.

In the preface to his "Studies in Architecture" (Macmillan & Co., Ltd.) Mr. Reginald Blomfield says:—"I have aimed at recalling attention to the fact that architecture is not a mystery to be jealously concealed from the uninitiated, or a go-as-you-please affair without principles or tradition, but an expression of the human intelligence, conditioned by the same laws and capable of the same critical analysis as any other imaginative and intellectual effort." The titles of the essays are "Byzantium or Lombardy," "Andrea Palladio," "The Architect of Newgate," "A Hundred Years of the French Renaissance," "Philibert de l'Orme" and "The Italians at Fontainebleau." The subjects, it will be seen, are of a kind which educated men, although not versed in architecture, can consider with pleasure. To write them, varied scholarship in addition to technical knowledge was required. That they are the work of an architect is evident from the occasional criticism on modern English architects and their works. Mr. Burges is said to have been more of a craftsman than of an architect. We find it also stated that "no man in his senses could say that the architecture of the Law Courts, with all its merits, expressed in the slightest degree the purpose of the building, or in any sense proceeded out of that purpose." The cathedral at Westminster, on the other hand, is described as probably the finest church built in England since the days of Wren. The criticisms are introduced *à propos* of the beauties of S. Sophia, which serves instead of the Parthenon or Salisbury Cathedral for some modern English architects. Praise is given to Dance's "Newgate." But it is suggested that the peculiar character of the building was inspired by Piranesi's "Caprici di Carceri." The essay on "French Renaissance" treats of Du Cerceau, Jean Goujon and other artists. Mr. Blomfield has found in the "Comptes des Bâtiments" for 1534 the word *architecteur*. M. Palustre says the word architect was first used in 1545. Laborde believes it was first applied in 1541 to Serlio. Gilles le Breton, who had charge of the work at Fontainebleau in 1528, is described in the official documents as *maistre maçon tailleur de pierre*. In 1534 Guillaume de la Ruelle, another architect, is mentioned as master of masonry works. In 1539 Robert Estienne, in his French-Latin Dictionary, gives *architectus* as the equivalent of *maistre masson ou charpentier*. Then in 1541 Francis I. gave order for the payment of 400 livres to "nostre cher et bien aimé Bastiannet Serlio du pays de Boullongne à cause de son estat de nostre peintre et architecteur ordinaire." In 1546 De l'Orme was described by Henri IV. as "notre architecte ordinaire." It may, therefore, be assumed that until the coming of the Italians to Fontainebleau a director of building was not known in France as an architect. An appendix shows De l'Orme's method of building up ribs of timber for roofs. Apparently he avoided the use of iron as bolts or in any other form. The essays are scholarly and attractive.

When the first edition of Mr. Millar's large volume on "Plastering: Plain and Decorative" (B. T. Batsford) appeared in 1897, we were glad to welcome it as an example of a book written by an operative from his everyday experience. Two years after a second edition was issued. The author was engaged in preparing a third edition when he was attacked by illness, and died early in last year. The publishers have been able to obtain assistance from other experts, and this third edition now appears in a satisfactory form. Among other additions is a description of some of the applications of reinforced concrete, and the British standard specification for Portland cement has been introduced by permission. The treatise now forms a quarto volume of nearly 650 pages, with about 250 illustrations in the text and 53 plates. The large volume is a course of education for plasterers, and would afford much information for those who have to design or superintend their work.

A book by Mr. Harry Furniss, especially when published at Christmas time, with a portrait of the author which recalls the laughing philosopher, might be supposed to be intended only for amusement. That "How to Draw in Pen and Ink" (Chapman & Hall) is humorous is an advantage, but there is more genuine instruction in it than in any book on the subject with which we are acquainted. About Mr. Furniss's skill as a draughtsman there can be no question. But he could not produce such a quantity of excellent work without a system, and in the pages he explains the whole process by which he makes such fascinating drawings. Much of his fame, for instance, was gained by his Parliamentary sketches, and from his book we learn how he prepares for the representation of scenes in the House of Commons by a very elaborate representation of the House itself, which would do credit to any architectural prizeman. For interiors one can, he says, be provided with several pages marked out by perpendicular lines, but with different points of sight to suit any point of view desired. Mr. Furniss is not afraid of revealing how one model, who was by no means ministerial or aristocratic, has served both for Lord Salisbury and his nephew, Mr. Balfour, although in physique the statesmen were unlike. He rarely draws with pencil unless to give the merest suggestion. From some of his drawings it might be supposed that, like the Japanese, his instrument was a brush. For fine lines he uses the Gillott's No. 659, for the rest of his work he employs the same pen he writes with. He draws on smooth white card with a very black ink, and he points out that watering the ink for a face or background causes bad reproduction. "Give every line its chance; firm and black, as fine as you like, but sound, and you will have as little to complain of as I have." In another page he repeats the lesson:—

> My theory is stick to the pen and the pen will pull you through. Use the pen, black ink and smooth paper, and your drawing must be reproduced facsimile. A quill pen even is a delightful medium for rapid coarse work, and the feather end of it makes a capital brush. In days gone by this was a favourite method with some artists, and it ought to be used more than it is when the artist draws for large-sized reproductions. The fineness of the work you find in American magazines and periodicals is simply the result of reducing a large drawing to a small size. Mr. Charles Dana Gibson draws his subjects four or five times larger than they are reproduced, but few beginners can hope to have the freedom and facility that enable one to make a bold confident drawing. The beginner draws rather on a large scale, but with lines as fine as if the drawing were to be reproduced the same size. There are limits to the possibility of reproducing the finer lines in drawings that have been very much reduced. For the process of reproduction is by the biting-in of acid, leaving the lines in relief, and some lines are so fine that they cannot stand. It is therefore necessary to recollect this and to draw with a view to reduction.

Mr. Furniss's advice is sometimes imparted in a more humorous manner, especially when he is addressing lady students. But whether grave or gay he never forgets that he is teaching. From every page there is something to be acquired which the student will find profitable. The illustrations are characteristic in style and point. The book forms a capital Christmas present.

Stirling is one of the most interesting of the Scottish burghs. The castle, which certainly is older than the twelfth century, has been made the subject of innumerable paintings and drawings. It was the scene of many historical events. Not far from the castle are the ruins of Mar's Work, a sixteenth-century residence. It is sometimes called the Earl of Mar's Lodging, and is the subject of a description by ex-Bailie Ronald (Stirling: Mackay), with an appendix and illustrations by Mr. J. W. Small, architect. It captivated the attention of John Ruskin, for he made a drawing of the building. It was erected by John Lord Erskine, who obtained the title, although another Earl of Mar then lived. In the guide books the popular belief is stated that the house is built out of the ruins of Cambus Kenneth Abbey. Mr. Thomas Ross, who is a good authority, says that no one having knowledge of architectural detail will give any credit to the legend. If stones were taken they were altered and re-dressed. The building is supposed to have been 120 feet by 30 feet, and from the inscriptions it is evident that the original owner was very proud of his dwelling. The vicissitudes of the structure are related by Mr. Ronald. In the time of George I. it was turned into a barrack. In October 1732 it was let on lease to serve for vagrants and idle persons, and it has received the name of Mar's Work because it was a workhouse. When it ceased to be used for that purpose it was allowed to fall into ruin. At present the remains are the property of the Town Council. It is a typical example of Scottish work of the seventeenth century, and Mr. Ronald has done well to make so interesting a building known to lovers of architecture outside Scotland.

The "Beton-Kalender, 1906" (Berlin: W. Ernst & Sohn), is an indication of the efforts which the Germans make to become competent for all kinds of work. It is a pocket-book divided into three parts, and consisting of about 600 closely-printed pages, and is intended solely for those who have to design or erect buildings in concrete and iron. Every variety of the construction is suggested by an example, and the qualities are as far as possible expressed by algebraic formula. There are tables without number; prices are given, and the whole forms an encyclopædia of the subject. While in England construction in iron and steel is in its infancy, the Germans appear to apply the combination to as many uses as the Americans.

Few men are able to announce that they have written 525 letters to the Press which were printed. Mr. Algernon Ashton is in that unique position, and he has brought out the series in one volume, with the title "Truth, Wit and Wisdom: a Mine of Information" (Chapman & Hall, Ltd.). The author is a composer and teacher of music. But he deserves to be appointed superintendent of metropolitan graveyards, or, rather, of the tombs of notabilities in them. He feels it his duty to go round them and to call attention to any that are neglected. Kensal Green, especially, afforded him many saddening spectacles. In that way Mr. Ashton has rendered service. The headstone which served as the memorial of George Chapman, the translator of Homer, was erected in St. Giles's, by Inigo Jones, who was a beloved friend of the poet. In 1896 attention was drawn to it, and nine years afterwards the tombstone was placed in the church to prevent it falling into decay. But that is not the only kind of service Mr. Ashton has rendered. He is an omniscient corrector of the Press. If an unfortunate journalist happens to make a mistake of a figure in recording a death or a birth, the censor is sure to correct him. Of course, sometimes Mr. Ashton demonstrates that he is human by falling into error himself. For a connoisseur who bestows so much attention on the dead it was rather surprising to find him stating that he possessed a photo of King Charles's head; but then he had the courage to avow his mistake, and to explain that what he had was a photograph of some drawing. Musicians come in for close attention from Mr. Ashton, but men who follow other arts are not neglected. The volume is a miscellany which deserves to be ranked among the curiosities of literature.

A View of the Great Place of S.t Mark from S.t Geminiani's Church to S.t Marks Church

CANALETTO'S VIEWS OF VENICE.—XX.

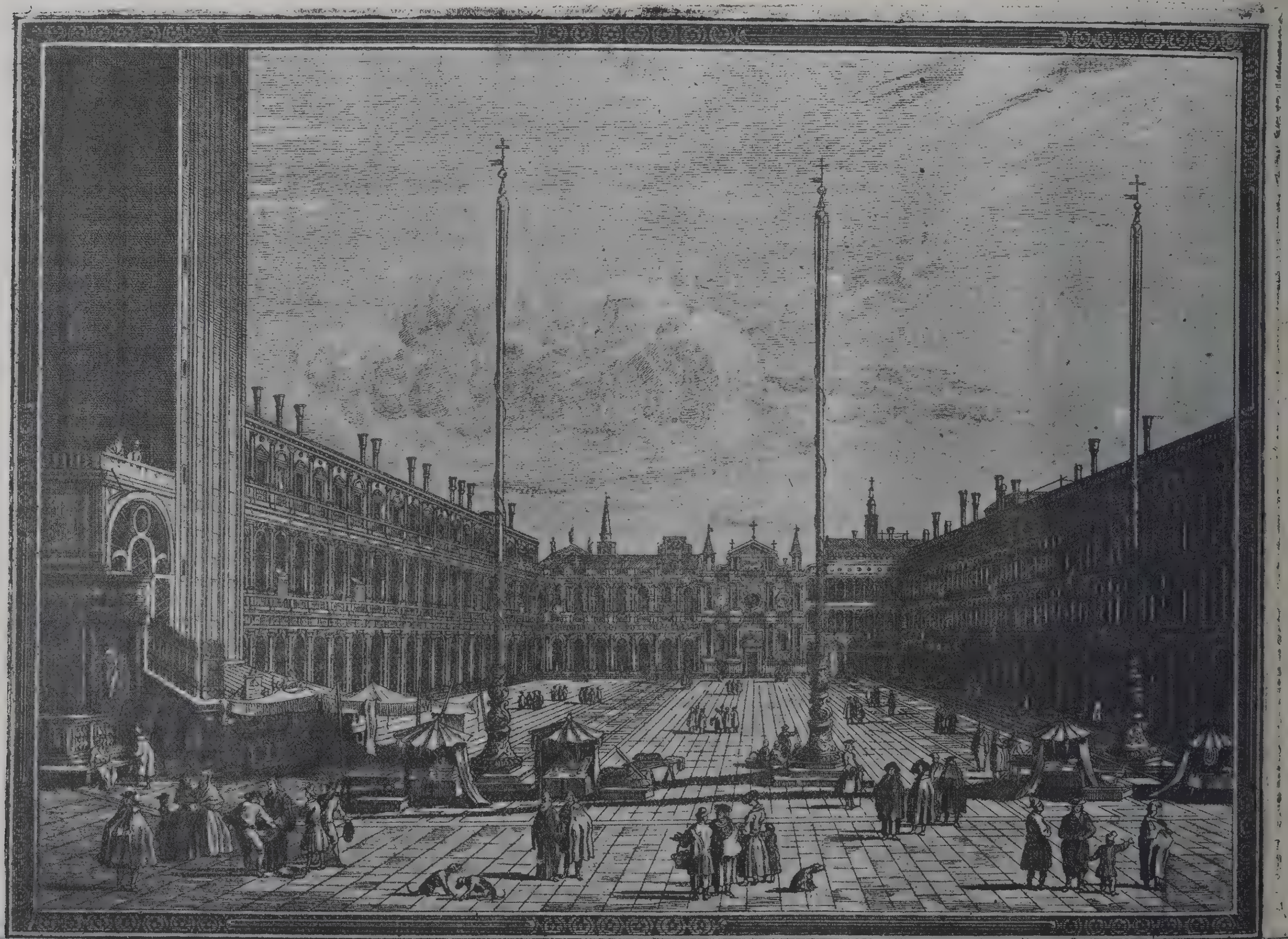
THERE is no vacant ground in the world which excites more interest than the Piazza San Marco, in Venice. As it is the largest of the open spaces it serves, like the boulevards in modern Paris, for the principal rendezvous of the inhabitants. By foreigners in general it is accepted as an epitome of the city. George Eliot wished she could have floated in the lagoon for hours, for it was the sort of scene in which she could most readily forget her own troubled existence, and, as became a disciple of Spinoza, desired to be melted into the general life. Another charm of the evening for the exhausted writer was to walk up and down the Piazza as the stars were brightening, and to look at the grand dim buildings and the flocks of pigeons which there abound. Similar feelings have inspired many other visitors, and we suppose, so long as the old buildings exist, the spot will be the cynosure for travellers from every clime.

Seeing how large is the area compared with other open spaces in Venice, it is easy to give credit for foresight to the ancient rulers of the city. The square was, however, originally of smaller dimensions than it is at present. A canal similar to that separating the palace from the prison ran almost parallel on the west of the Campanile, forming one boundary of the Place. On the bank was erected the original church of St. Geminiano. In the twelfth century the canal was filled up, and the church was re-erected on the site in which it appears in a central position at the upper end of one of the illustrations, where it stood until it was removed by order of Napoleon. About 1500 the row of buildings known as the Procuratie Vecchie was erected, and in 1584 the row known as Procuratie Nuove. The latter joined the Libreria Vecchia. The Campanile, which existed from 911, was restored in 1511. The loggietta at the base was erected in 1540. The clock tower near the old Procuratie dates from 1496. John Evelyn was told by a merchant that one day the man who had charge of the clock struck the hammer so forcibly when he was stooping that he was stunned, fell over the battlements and broke his neck. The three standards were used to carry flags on festive occasions, which recalled Crete, Cyprus and the Morea. The bronze pedestals are the work of Alessandro Leopardi, the sculptor. They were presented by the Doge Leonardi Loredano.

In any other place the similarity of the rows of buildings would be considered as monotonous. But in Venice they are supposed to serve as a foil to St. Mark's and to the Doge's Palace. The Libreria Vecchia, which was designed by Sansovino, is not seen in the view. The Procuratie Vecchie formed the residences of the great officers of State known as the Procurators of St. Mark's. The Procuratie Nuove, erected in 1584 by Scamozzi, served also for official residences. This block, with the Libreria and the Zecca or Mint, now form the royal palace. On the site of St. Geminiano, which was one of Sansovino's buildings, Napoleon had erected the buildings known as the Nuova Fabbrica, in order to secure more uniformity at that end of the Piazza.

THE LANGUAGE OF LINE.

A LECTURE was delivered before the Edinburgh Philosophical Institution by Mr. Walter Crane on "The Language of Line." The power of association, he said, which influenced most of their mental conceptions was also felt very strongly in regard to visual impressions. Amidst the complexity of life and nature which they saw around them they found certain lines which invariably suggested certain ideas. These simple lines seemed to be behind every manifestation of art. From these primitive lines it



The View of the great Place of S^{t} Mark from S^{t} Marks Church to that of S^{t} Geminiani at y^{e} upper end. 9
NB. The 3 high Masts in front are fixt on Pedestals of Braſs, the Standards of the Republick are hoisted on them on Solemn Occasions.

would be his endeavour to construct, as it were, a sort of alphabet of the language he was speaking of. The horizontal line, he went on to show, suggested restfulness and peace, the serpentine or wavy line movement, the vertical line stability, and was associated with architecture when representing permanent things; the radiating line—lines springing from a centre—he was inclined to call the line of life, as it was exemplified in nature in all living forms. He divided his subject into three classes—first, the use of linear language in a symbolic sense; second, in decorative beauty, and, third, in pictorial or graphic representation. Under the first head he showed how the sun symbol was probably the first to be used by primitive man; the zigzag line was used to denote water, and was still so employed; the earth was a globe with wings, and the air was represented by the figure of the goddess of the heavens with the sun on her head, and in her hands symbols denoting power or dominion. With these he contrasted modern symbolism, and remarked that whereas ancient artists, when they desired to represent universal power, did so with the simplest possible forms; the modern artists, in representing the most trivial things, did so with the utmost elaboration. Mr. Crane illustrated how, when ideas became more complex, the alphabet of literature was to a large extent derived from Egyptian hieroglyphics, and he mentioned incidentally that when Scotsmen sang "Auld Lang Syne" and crossed hands it was the not unpleasing motive of a chain of hearts and hands that was formed. He illustrated further how decoration grew from the modification of squares, circles and ovals; the last-mentioned, he said, controlling nearly all animal forms, and that even when the boundary lines were not seen their influence was still felt. Speaking of the pictorial or graphic line, he again recalled the peaceful suggestion of the horizontal line; struggle or stress was represented by energetic angles, the wavy line was the line of movement, grief was suggested by the bent line, joy by ascending and sorrow by descending lines, tragedy by angles and comedy by curves. In concluding his lecture he drew a symbolical figure of the modern Athens—a Britannia-like female figure holding aloft a lamp of three lights, which he ventured to present as an offering to the Edinburgh Philosophical Institution.

TESSERÆ.

Greek Mythology.

A CONSIDERABLE part of the mythology of the Greeks sprung from their ignorance of the Oriental languages. They disdained to apply themselves to the study of languages spoken by people whom, in the pride of their heart, they stigmatised with the epithet of barbarians. This aversion to every foreign dialect was highly detrimental to their progress in the sciences. The same neglect or aversion has, we imagine, proved an irreparable injury to the republic of letters in all succeeding ages. The aoids or strolling bards laid hold on those Oriental legends, which they sophisticated with their own additions and improvements, in order to accommodate them to the popular taste. These wonderful tales figured in their rhapsodical compositions, and were greedily swallowed down by the credulous vulgar. Those fictions, as they rolled down, were constantly augmented with fresh materials, till in process of time their original import was either forgotten or buried in impenetrable darkness. A multitude of these Hesiod has collected in his Theogonia, or Generation of the Gods, which unhappily became the religious creed of the illiterate part of the Greeks. Indeed, fable was so closely interwoven with the religion of that airy, volatile people, that it seems to have contaminated not only their religious and moral, but even their political tenets. The far-famed oracle of Dodona was copied from that of Ammon of Thebes in Egypt; the oracle of Apollo at Delphos was an emanation from the same source; the celebrated Apollo Pythius of the Greeks was no other than Ob or Aub of the Egyptians, who denominated the basilisk or royal snake Ov Cai, because it was held sacred to the sun. Ob or Aub is still retained in the Coptic dialect, and is one of the many names or epithets of that luminary. In short, the groundwork of the Grecian mythology is to be traced in the East. Only a small part of it was fabricated in the country, and what was imported pure and genuine was miserably sophisticated by the hands through which it passed, in order to give it a Grecian air and to accommodate its style to the Grecian taste.

Materials for St. Peter's.

When, on the recommendation of Bramante, the appointment of architect for the works at the new church of St. Peter was given to Raphael, the salary being about 130*l.* a year, one of the first efforts was the obtaining stone and marble for the masonry. Within a year after the new appointment a brief was issued by the Pope on August 27, 1516, to enable Raphael to take materials wherever they could be found within a limited distance, and it conferred upon him absolute power to enforce the decree, which is to this effect:—"It being of the greatest importance to the building of the temple dedicated to the Prince of the Apostles to be plentifully supplied with stone and marble of every kind, and as the ruins of Rome will furnish abundance, besides which, on making excavations everywhere in the city as well as in the neighbourhood marble of every kind is dug up, we prefer that these resources should be applied to rather than that the material should be brought from a distance. Having constituted and appointed you to the direction of this edifice, we do empower you to excavate, more especially here in Rome, or within ten miles, in order to procure every sort of marble and stone that may be necessary for the building entrusted to your care. We do also command all persons of every state or condition, from the highest degree to the lowest, to give you their assistance to obtain the same within the aforesaid limitation, and he who refuses to conform shall in three days be fined, at your discretion, from 100 to 300 golden crowns. Besides, as it has been represented to us that frequently the stonemasons cut without consideration ancient marbles, and thereby deface and obliterate inscriptions of importance, we command all those who exercise that trade in Rome not to dare, without your order or permission, to break or cut any stone on which there is an inscription on pain of being subject to the aforementioned penalty." Thus from the barbarous times of the Emperor Constans, who stripped the bronze tiles from the roof of the Pantheon, down to the enlightened era of Leo X., the edifices of ancient Rome were considered as a vast and various mine to supply the wants of individuals and the State. It remained for Benedict XIV., by consecrating the Coliseum, to stay the destructive hand of licensed devastation, and preserve from being levelled to the ground the noblest monument of antiquity.

Landscape Gardening.

Autumn is the favourite season of study for landscape-painters, when all nature verges towards decay, when the foliage changes its vivid green to brown and orange and the lawns put on their russet hue. But the tints and verdant colouring of spring and summer will have superior charms to those who delight in the perfection of nature, without perhaps ever considering whether they are adapted to the painter's landscape. It is not from the colouring only, but the general composition of landscapes, that the painter and landscape gardener will feel the difference in their respective arts, and although each may occasionally assist the other, yet no expert would advise the latter in laying out the scenery of a place to copy the confined field of vision or affect the careless graces of Claude or Poussin, or recommend as a subject proper for a landscape-painter the formal rows or quincunx position of trees in geometric gardening. It has been wittily observed that "the works of nature are well executed, but in a bad taste;" this probably has arisen from the propensity of good taste to display the works of nature to advantage, but it does not hence follow that art is to be the standard for nature's imitation, neither does it disgrace painting to assert that nature may be rendered more pleasing than the finest picture, since the perfection of painting seldom aims at exact or individual representation of nature. A panorama gives a more natural idea of ships at sea than the best picture of Vandervelde, but it has little merit as a painting, because it too nearly resembles the original to please as an effort of imitative art. A landscape gardener's sketches, if they were more highly finished, would be a sort of panorama or facsimile of the scenes they represent, in which little effect is attempted on the principle of composition in painting; but like a profile shadow or silhouette, they may please as portraits while they offend the connoisseur as paintings. The art is of a higher nature than that of painting and is aptly described by a French author as "Il est à la poésie et à la peinture ce que la réalité est à la description et l'original à la copie."

Plans for a Hippodrome to be erected in Hales Street, Coventry, are under consideration by the Council.

NOTES AND COMMENTS.

According to there port of the Board of Education for 1904-5 the Council of Advice for Art have met once a fortnight in the Art Museum to inspect and to advise upon works of art offered for purchase, loan or presentation. During the year the Council have advised the Board as to the appointment of professional examiners in art, the arrangements for the art examinations generally and as to such modifications of syllabuses as had been suggested. Each member of the Council has acted as visitor for one school of the Royal College of Art, and has reported upon the work of that school, and the Board have referred to the Council for advice questions which have arisen in connection with the courses of instruction in the College. Four members of the Council were requested to continue their services for a year after March 31, 1905, and this they agreed to do. The Board are considering the advisability of making new arrangements in regard to the relations between the Council of Advice for Art and the work of the Art Museum with a view to enlarging the scope and functions of the Council, and at the same time extending the responsibilities of the director in certain directions.

The Engineering Standards Committee have issued a report on the progress of the work from January 1901 to July 1905. The original committee was appointed to consider the advisability of standardising various kinds of iron and steel sections. From time to time the inquiry was enlarged, and the following subjects have been or are now under consideration :—Rolled sections, railway and tramway rails, locomotives for Indian railways, pipe flanges, screw threads, pipe threads, limit gauges, railway rolling-stock material, tyre profiles, steel castings and forgings for marine work, Portland cement, cast-iron pipes, generators, motors and transformers, prime movers for electrical purposes, physical standards, telegraph and telephone materials, electric cables, electric tramway material, automobiles, and plant accessories. The first publication issued related to standard rolled sections of iron and steel, which appeared in 1903. Having finished the question of standard sections, the sectional committee on steel for bridges and building construction turned their attention to preparing a standard specification. The draft of this specification has been submitted to the science committee of the Royal Institute of British Architects for their criticism, and will, it is hoped, be ready for publication at no very distant date.

The prices paid for some English paintings in Paris at the CRONIER sale is evidence of a change in appreciation. For a portrait by GAINSBOROUGH of a gentleman (said to be *Sir John Campbell*) 65,000 francs were obtained. Another work ascribed to the same artist, *Mr. and Mrs. Hallett*, cost only 6,600 francs. For a portrait of *Miss Day*, by Sir THOMAS LAWRENCE, the high price of 43,000 francs was given. A portrait by REYNOLDS sold for 30,000 francs, and a sketch for his *Lady Stanhope* 10,000 francs. For a *Milkmaid*, which is supposed to be by ROMNEY, the price was 30,000 francs. Another portrait of his "school" realised 5,800 francs. But the highest prices were obtained for works by Frenchmen of a different class. CHARDIN'S *Le Volant* was bought for 140,000 francs, FRAGONARD'S *Le Billet-doux* for 420,000 francs, and his *Liseuse* for 182,000 francs. Three pieces of Beauvais tapestry after BOUCHER were sold for 300,000 francs, and other examples were no less costly.

Prehistoric forts abound in Scotland, and a remarkable group was described by Dr. CHRISTISON before the Society of Antiquaries of Scotland on Monday. It stands on Whitcastle Hill, about four miles from Hawick. There are five separate works in two divisions about 40 feet apart, the enclosures in each division being close to each other without intercommunicating. In the first division the main fort is oval, measuring about 270 feet by 250 feet over all, surrounded by a rampart and ditch, both much damaged, and having an entrance 27 feet in width at the west end, where it emerges from the interior area, widening to 40 feet when it passes the trench. An oblong outwork, with an area of 105 feet by 80 feet, enclosed within two ramparts with an intervening trench, and a rectangular enclosure surrounded by a slight mound but no trench, complete the group. In the second division there is a circular work with defences closely resembling those of the oblong outwork, enclosing an area of about 95 feet in diameter, and with an entrance 5 feet wide. Adjoining this is another rectangular work about 50 feet square, surrounded by a mound from 3 to 5 feet high. The name Whitcastle may suggest that the principal work of the group is stone-built, and a very slight excavation would determine this. The three curvilinear works are evidently of a defensive character, and may be contemporary. The rectilinear works appear to be indefensible enclosures, though there is nothing to show their precise purpose.

Nottingham Castle must have existed prior to the tenth century, for in 920 it was restored after its destruction by the Danes. It was often attacked, and was again rebuilt after the Conquest. CROMWELL ordered it to be dismantled in 1634, and it was re-erected thirty years later. It suffered greatly during the Reform riots in 1831. The Nottingham Corporation were desirous of preserving a monument which suggested so many events in the history of the town, and a lease was obtained for 500 years. It was agreed to expend 15,000*l.* on the restoration of the building and adapting it to become a museum and for other purposes. Before the Bill was passed a clause was introduced by which offices for the agent of the Duke of NEWCASTLE had to be erected. At present the old gatehouse is used for the purpose. The agreement has not yet been carried out, partly because a new building would be considered as out of place. But to get rid of the obligation it will be necessary to pay 1,500*l.* The Corporation are seeking to borrow 10,000*l.*, all of which will be expended in connection with the castle. Castle Lodge was made the subject of a report by Mr. T. G. JACKSON, R.A., and no doubt his plans will be adopted for the restoration. The building is supposed to be 800 years old. The bastions and walls will also require to have money expended on them.

The Municipal Council of Paris are unanimous in recognising the necessity of erecting cheap dwellings. Although benevolent individuals and societies are endeavouring to provide habitations, the Council consider there is an urgent necessity for borrowing 2,000,000*l.* sterling for the purpose. The plans will be obtained by competition. The Department of L'Assistance Publique has also arranged to undertake building. But the Municipal Council seem to be afraid of the competition, believing that Government work is slow and costly. At the present time it has to be demonstrated that a fair return for the outlay may be anticipated, but that is hardly possible if the arrangements are entrusted to officers of the State.

ILLUSTRATIONS.

CATHEDRAL SERIES.—WAKEFIELD: THE CHANCEL.

NEW SCHOOLS, SPRING GROVE, ISLEWORTH, W.

SHIRLEY SCHOOLS.

WHITE OAK SCHOOLS, SWANLEY, KENT.

MEADOW LEA, HORSELL.

THE IDEALS OF GREAT ARTISTS.*

By Sir Edward J. Poynter, P.R.A.

STUDENTS of the Royal Academy,—In my address to you this evening I propose to touch but very slightly on the works which form the subject of these competitions, no further, in fact, than to say that, taken as a whole, they stand well in comparison with former years, and to congratulate you especially on the studies in painting from the life, in which almost all are good and the premiated works are as good as I could wish to see them. I shall rather fall back on some first principles which are apt to be lost sight of in the prevalent chatter about "art," and which it is well to keep in mind at a time when something like anarchy in art is fostered by irresponsible talk; a source of danger for the student who finds that trivial works, often only the sketches of beginners who have everything to learn, or mere indications of what the artist might have achieved if he were not too vain or too idle to study, are publicly lauded out of all proportion to their merit and importance. Such ill-considered judgments (if they can be so called) are a snare to the beginner who finds that, with such talent as he may have, but little effort is required to make an ephemeral success. The result cannot but be bad for himself and bad for any art which is to rise above the standard of mere facile production. It is as well, therefore, that we should sometimes reflect that there are great aims and great aspirations beyond the display of technical facility which at best is but a means to a greater end; but this last is a point which I have elaborated in previous discourses and I need not now dwell on it further.

Some of you may still be in the schools who were present at the distribution of prizes four years ago, and may remember that I ended my address on that occasion with those lines from Shakespeare's "Hamlet," where, as if seized with a sudden inspiration, he pours out in language unsurpassable for splendour his conception of man as the final masterpiece of creation. The words are familiar to you all: but as conveying with a directness, which could not be more apposite if it were intentional, the ideal to which great art aspires, they are well worth again recalling to your notice, and may serve as a text for some discursive and possibly disconnected remarks on the dignity of man as a subject for treatment in art, and thus Hamlet expresses himself:—"What a piece of work is man! How noble in reason! how infinite in faculty! in form and moving how express and admirable! in action how like an angel! in apprehension how like a God! the beauty of the world! the paragon of animals!"

It is clearly the conception of man, not in actuality, but in his capability for the highest beauty and the highest purposes—in his near approach to the Divine—that is set forth in these words; and from the days when the Greek artist conceived his gods as man in his most perfect form some such lofty ideal has been present in the mind of all artists who are moved to the highest flights of their art.

To the Greek especially man was "the beauty of the world, the paragon of animals," and as such the one object of his aspiration was the treatment of humanity in its most perfect manifestations. His high æsthetic instinct led him to convey the dignity of man in the scale of creation by investing him with all the beauty of form and feature of which he is capable, and towards this end the most consummate art and the keenest intellectuality that the world has ever seen was dedicated. To the Greek philosopher, the poet and the artist take the lead with the philosopher among those select souls who have been privileged in a previous existence to visit the dwellings of the gods and to contemplate celestial truth or beauty, of which the remembrance, when once seen, can never be effaced. "Like some divine inspiration the glories of this other world possess and haunt them . . . and thus the sight of any earthly beauty in face or form thrills the genuine lover with unutterable awe and amazement, because it recalls the memory of the celestial beauty seen by him once in the sphere of eternal being." With such a conception before him of the source of his artistic gifts; with such a mission to fulfil, the artist could never condescend to admit what is mean or ugly or of bad workmanship into his productions; and we find that neither dramatic or tragic emotion is allowed to interfere with the dignity or grace of his figures; passion or grief never impair the beauty of the features, no action degenerates into violence or distortion. The very words which you have just heard—"in form and moving how express and admirable! in action how like an angel!"—might have been in his mind as a guide to direct his efforts towards the realisation of beauty as the image of the Divine; and in this striving for an ideal he was only insisting on a truth in nature and not pursuing an image of his own creation; for the gestures and expression of noble and beautiful beings never degenerate into violence or grimace. So we may see the face of some singer with trivial features become ludicrous in the act of singing, while a truly beautiful face only gains in beauty.

It is not uncommonly believed that the ideal beauty of Greek art was arrived at by some such process as selecting the most beautiful traits of various models and combining them in one body. Those who can believe that such a childish method was put in practice by the artists whose aim was to produce the utmost harmony in human form have never understood what makes Greek art so superlative above all other. If, as is related, Zeuxis composed his figure of Helen from the five most beautiful maidens that he could find, or supposing the Greek sculptor to have deduced his ideal forms from a variety of models, they can only have been used as a means for comparing and fixing in his mind what goes to the making of a perfect form, for evolving from variations in the type which he wished to represent a perfect standard. The perfection of form which constitutes in its harmony of proportion and beauty of line the ideal type is no invention of man, putting parts together, but is nature itself, a true nature underlying its infinite aspects, and it is this essential form which it is the business of the artist to find. How far the Greek artist used models is unknown; that he used them as we use them to copy from is more than doubtful—he must have watched and observed nature in the *gymnasium* and the *palæstra*, and so have acquired an universal knowledge of the figure in repose or action, through which he was free to work out his own idea. All the known history of Greek art shows that each great artist further refined on the types created by a predecessor or a contemporary, ever seeking for something nearer perfection.

So in architecture we find among the great Italian architects of the sixteenth and seventeenth centuries—Bramante, Scamozzi, Alberti, Palladio—the same endeavour to refine on the orders already acknowledged and established as Classical by that little more or less which is only perceptible to the trained eye, rivalling with each other who should produce the most perfect type of elegance or stability by variations of dimension almost infinitesimal, according as he thought they added to the elegance or dignity of the style, or was an improvement on the invention of another architect; so that to the practised eye the various characteristics of the great architects of that period may be distinguished at a glance, although none of them departed from the strictly Classical traditions of general proportion. Thus when Vitruvius lays it down that symmetry in architecture cannot be learned without the study of the proportions of the human figure, we may draw the inference that in both arts the slight differences which determine good and bad proportion are analogous. Further than this—to draw a moral which is worth your consideration—we may perceive that genius and originality do not necessarily imply the evolving of startling novelties, but may be shown in the development and improvement of recognised types and in new combinations of old forms. Neither Bramante nor Michel Angelo departed from the received essentials of the Classical orders, yet who shall say that both were not architects of original genius?

I have, however, in pursuing this special aspect of my subject, somewhat strayed from my original intention in this discourse, in which, as you may have already surmised, my object as far as I have gone has been to place before you the principles of Greek art in their true perspective. Those principles are on the æsthetic side first and immutable principles; they are as true now as when they were practised, and nothing will make them stale, or, to use the phrase which I have heard applied to the great style of the great periods of art, "played out." That great and unattainable art of the Athenian Greek was destined like all things human to decay. But not until Christianity had established its dominance in the fourth century did art conceive of treating the human figure otherwise than as a reflection of the eternal spirit of beauty. When in the course of centuries of idealised art the true spirit died out and only the form remained, the beautiful proportions of the human frame became a convention learned by rote and carried on by tradition only, and the artist, although largely retaining his skill as a workman, lost the habit of referring to nature and not only did the expression of beauty become a meaningless formula in the representation of gods and goddesses, heroes and nymphs (because the faith was gone that invested them with Divine attributes), but portraiture itself, which had become very general under the Roman sway, was limited to the face alone, the limbs and torsos of emperors, generals and statesmen being invariably of the heroic type without any character or individuality. Mistaken as this idea of portraiture seems in a realistic age, and in face of the vivid presentments of the Flemish, Italian and English painters, it was but a clinging to the tradition that the dignity of man required that he should be invested with his most perfect attributes. The example of Lysippus, who made his portraits of Alexander in heroic form, and of Apelles, who painted him as Jupiter, probably set the example of this kind of portraiture; portrait-statues of the fine period of Greek art are very rare, but if we may judge from the well-known statue of Demosthenes the figure and limbs were, if not portrayed from life, at least in character with the head and the personage, and the seated figures of Menander and Poseidippos, the casts of which were formerly in our schools, but are now brought out to light in the vestibule downstairs, are, while preserving the characteristics of the great school in displaying only the essentials which give character, in no sense conventional in the treatment of the body, which is fully in character with the head; while, on the other hand, in the portrait-statue, so-called, of Germanicus, although done in the Augustan age, while the traditions of the great school were still strong, it has always seemed to me that the whole body is quite out of character with the head; it is an obvious affectation of the Greek athletic type, while the head is as evidently a portrait. To such a degree was this convention carried that sculptors, as the demand for portrait-statues became universal and the art degenerated, kept ready-made statues of male and female figures on which to affix the portrait-heads of their sitters.

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* An address delivered in the Royal Academy on Saturday last.

When such a stage was reached, and when the Greek myths became but a copy of a copy, it was time that the exclusive worship of beauty should die out, and that another conception of humanity should infuse some vigour into an art which had not only lost its vitality, but had gradually fallen to the lowest depth of feebleness in executive skill. Christianity and the curious phases of asceticism consequent on a totally new aspect of the destiny of man swept away the Greek view that it was through physical beauty that the place of man in creation was best dignified, but it was long before the rapidly growing and wide-spreading tree bore fruit. On the complete effacement of Classic art there was for centuries a void almost complete. Where any decorative art was practised it still faintly retained the Classic forms, as in the early mosaic representations of saints and apostles, who were accommodated with general types, sometimes of great dignity, to be traced through incorrect design and rude workmanship; nor with the ascetic banishment of the nude as contrary to religious prejudices regarding morality was a return to the æsthetic aspect of Greek art possible, and it was at this time that the priceless treasures of the Greek spirit of beauty perished from the face of the earth, leaving but the few *disjecta membra*, the few forlorn fragments which are preserved in museums, and from which we gain but an imperfect knowledge of the glorious world which has passed away. The indifference of mankind in general for all works of art, and the hatred of the fanatic for what is beautiful and noble, have left us but little by which to judge of the splendour and profusion of the works of antiquity. The most divine productions, the loftiest conceptions of which the human mind is capable, the labour of exquisitely gifted minds and hands, have perished—burned for lime by vile peasants, melted down for the mere value of the metal by ignorant greed, calcined in conflagrations and shattered to fragments by ruthless soldiery or the scum of cities, or hurled from their glorious shrines by still viler fanatics; while those that remain suffer from our familiarity, and are relegated to the class of things that are "played out."

When after a long period in which architecture was the only art that really flourished and was gaining for itself a new and marvellous development, inconceivable to the ancient mind; when the revival of the arts of painting and sculpture took place, man was no longer the "paragon of animals," but a creature born to suffering and unhappiness, to be saved from it not in this world but in the world to come by a life of strict asceticism and self-denial, and that man or woman was a beautiful being, desirable for representation as such, never entered the minds of the earlier painters of the Renaissance. But man did not thereby suffer in dignity. The beauty of his acts and his beliefs replaced the beauty of his form. The great theme of the Redemption, the sufferings of the Saviour as man, works of charity and mercy, the miracles of saints, and in a still more lofty phase the joys and terrors of the Resurrection and the glories of Paradise, gave scope to the representation of beauty of another order from that with which the Pallas, the Aphrodite, the Zeus and the Phœbus Apollo of the Athenians were invested. Through the works of Duccio and Giotto and their followers the beauty of the soul shines forth and invests man and angels with a new dignity.

It was impossible, however, for the ascetic spirit to exercise for long its influence on art. It is, indeed, an influence under which art must soon cease to exist. The joy of life, the healthy joy of living in a world teeming with beauty began soon to assert itself. Already with Benozzo Gozzoli subjects from biblical history are adorned with gay accessories gathered from the exuberant life of the country, the home and the palace; while in the exquisitely tender creations of Angelico piety and purity of spirit are allied with a loveliness of face and movement expressed in a grace of form and gaiety of colour which breathe a spirit of peace and holiness absolutely dissociated from asceticism, and which is unique in the history of art, and we see in the work of this truly Divine artist something of those visions of divinity which Plato conceives as derived from a former life in celestial regions. After this it was not long before Italy began to awake to the beauty of the treasures of antique art of which the ruined fragments were scattered so profusely on her soil, and once more the physical beauty of man began to assert its position and to force the artist to recognise it as paramount in the scheme of creation, till finally arose the culminating genius of the Renaissance, who realised for himself the Greek view that the human form is the highest to which the artist can aspire, and that through it alone, divested of all accessories, could he adequately express the sublime conceptions of his passionate soul. Not that Michel Angelo ever achieved in his work either the perfection of workmanship or the perfection of form which distinguishes the Greek artist from all others; even the secondary art of the antique sculptor excels him in these respects by a breadth and simplicity in the treatment of form which deceives by its apparent ease, and is yet unattainable; and his painting always appears to me, as in the figure of Adam in the Creation, and the beautiful athletes who adorn the ceiling of the Sistine Chapel, to approach nearer to the great simplicity of the Greek artists. But if their calm and dispassionate beauty did not enter into his scheme of humanity, he gained ground on another side. His profound knowledge of the human form made it possible for him, as for no other artist since the decay of antique art, to create his own forms, beings of Miltonic grandeur and of superhuman characteristics, creatures who seem to bear the burden of generations of human thought and human struggles and human suffering. The beauty that he aimed at is rarely the beauty of grace, almost always the beauty of energy and strength, and for him also the words of Shakespeare might have been written :—"What a piece of work is man! how noble in reason! how infinite in faculty! . . . in apprehension how like a god!" If you consider the very brief attempt which I have made to illustrate the lines I have quoted more than once, by the practice of the great artists, you will understand that whether from the Greek point of view of man as a reflection of Divine beauty, or as a creature struggling under the burdens of life with all his faculties, it has never occurred to the artist to represent him as other than the noblest and most worthy subject for his study. After the second decadence of art at the end of the sixteenth century, when for the second time the production of works of art became a perfunctory process trading on an effete tradition, arose other schools in lands where the sense of beauty and grace was not predominant, where an ideal of beauty was never dreamt of, and where painting was nothing but portraiture, for such in fact are the homely scenes of Dutch life. For qualities of painting some of these works have never been surpassed, and they often display great poetic charm derived from the close observation of the homelier aspects of nature; nor can it be said, although the subjects chosen and the personages represented are frequently of a low and ignoble character, that the human figure is treated in an ignoble way, for the excellence of the work redeems it in this respect, and a sense of humour generally relieves the grossness that is occasionally displayed. It was reserved for quite modern times deliberately to treat man, and especially woman, from a sordid, bestial and obscene point of view, and presented with a repulsive technique, and to find the horrors of the modern realistic and so-called Impressionist school belauded as though they were a new departure in art which had rightly banished for ever the traditions of the beauty and dignity of man, which fortunately are inherent in the true artist.

I will not, however, dwell on this point; you yourselves, I hope, both from natural sense and the example set by many great artists both at home and abroad, are armed against the adoption of such a very simple way of advertising yourselves as by shocking people of taste and decency. But you may not always be averse to some attempt to startle people by eccentricity under the idea that it is a sign of genius.

I have before endeavoured to impress on you that the object of the teaching here is, not to determine for you what form your future practice should take, but to equip you with the necessary qualifications for doing well and in a scholarly manner whatever you undertake. If your studies should lead you to search for beauty in its higher forms in the direction which I have endeavoured to point out to you in this discourse, no one would rejoice more than myself, who thinks that to achieve beauty according to your individual gifts is the highest form of art, but it must be got at through nature in the spirit of the great artists, not by adopting their forms. What is absolutely essential is that whatever you do should be done like an artist, and not in a slovenly way, or from the mere desire to show how clever you are, and how you may astonish the ignorant by superficial eccentricity of treatment or a superficial display of technique. I am aware that when I speak of eccentricity I am touching on a large subject for discussion, for genius occasionally takes startling forms and appears eccentric at first sight, but genius itself is not always free from conscious eccentricity. On this point I am obliged to fall back upon the commonplace remark that, though genius may be eccentric, eccentricity is not necessarily genius, or even an essential part of genius; and I am convinced that the greatest geniuses have always been free from the self-consciousness which wishes to impose by peculiarities which shall distinguish them as above ordinary people. No one, I hope, will deny genius to Titian, but he merely carried to perfection an art which his master and many before him had excelled in; he stood a head and shoulders above them, that was all. Michel Angelo himself, the most potent spirit of the Renaissance, sprung nothing startling upon the world; his genius showed itself in exceptional power of doing good work from the beginning, and his masters were surprised not at the originality of his conceptions so much as at his astonishing power of absorbing instruction and of doing work as a beginner which rivalled that of the accomplished artists of the time. His tremendous powers developed as he grew and felt his way. A power of more rapidly absorbing impressions than ordinary people and an infinite and penetrating patience in study, not forgetting Poussin's maxim of "neglecting nothing," are more sure signs of genius and likely to lead to commanding powers than the faculty of bursting forth suddenly with a startling radiance.

Ladies and gentlemen, you may have thought while I was putting before you the exalted ideals of the great artists of antiquity and the Renaissance, whether it is possible in the present day to achieve the same results, and whether I have not been holding up to you examples which it is impossible to follow. I would reply to this that, setting aside the fact that the conditions of modern life are opposed to it, the traditions of great work are not with us to help us. Schools such as those of Greece, of Florence, of Venice take centuries to build up and arrive at their culmination. Our own great artists are isolated instances, and the last school with a tradition was the limited one formed by the genius of Reynolds. Many artists have adopted, as it may be said, Classic art, and for this reason, that it lends itself to the treatment of beauty—the nude, for instance, and beauty of drapery, which is quite a different thing from costume; the Classic form of dress is a constant delight in this respect from the beautiful lines to which it lends itself and which it suggests, and from the way it follows the form and expresses the movements of the figure; and the name of my predecessor in this chair, Lord Leighton, will occur to you at once as having in this sense, and by imbibing the spirit of Classic art, arrived at a consummate mastery of a beautiful style, and I could easily name others who have worked with great success in the same direction. But to penetrate the secrets of the great style from within, to see the mysteries of nature, to master the essence of beauty not from outside but by the continual study of nature itself in its most perfect form, that of the human body, and so to express the human soul, is another matter; and perhaps only one artist of modern times, the great man whose works filled the galleries last winter, has attempted it. But he shut himself off almost completely from modern life, which could supply him with no great traditions to help him; he communed with the great men of the past and, so to speak, struggled incessantly with nature to force her profound secrets from her, and as far as a man under those conditions could rival the race who were surrounded by everything to help them, beautiful humanity, beautiful nature and above all the youth of a world for the first time bursting into blossom, he pushed his art. But he only achieved that by cutting himself off largely from the enjoyments of life, and he worked both while other men slept and while other men waked, and his work is pregnant with beauty, pregnant with meaning, pregnant with soul, pregnant with exalted ideas.

Such an accomplishment of a life's task is not within everyone's reach, for it involves the possession of a master mind. But your career is in your own hands, and it is at least within your power whatever line of art you may adopt—and there are many honourable courses less ambitious than such as have been the theme of my discourse, but still legitimate and well worth pursuing—whatever direction your future may take it is always within your power to do good work; and if you keep in your mind the words of the great poet which led me to these remarks you will have the dignity of the human being always before you, and will never degrade your art to base views of humanity.

ROYAL ACADEMY PRIZES.

THE annual distribution of prizes to the students of the Royal Academy schools took place on Saturday evening. The following were the prize-winners:—Historical Painting.—Ulysses Recognised by the Nurse, Euryclea (Homer, *Od.*, Book XIX.)—gold medal and travelling studentship (200*l.*), W. E. Gladstone Solomon. Landscape Painting.—The Ebb-tide—Turner gold medal and scholarship (50*l.*), Alice Palgrave Walford. Landscape Painting.—Willows and Weeds by a Stream—Creswick prize (30*l.*), Ernest Townsend. Painting of a Figure from the Life.—Silver medal, 1st, George Frederick Bird; 2nd, Francis E. Fitzjohn Crisp. Painting of a Head from the Life.—Silver medal, 1st, W. E. Gladstone Solomon; 2nd, Daisy Radcliffe Clague. Design for the Decoration of a Portion of a Public Building.—Commerce—prize (40*l.*), Jacob Henry Amschewitz; honourable mention, Carroll A. C. Oliver Lodge. Design in Monochrome for a Figure Picture.—The Death of Ananias (The Acts, chap. v.)—Armitage prizes, 1st (30*l.*) and bronze medal, not awarded; 2nd (10*l.*) Margaret Isabel Dovaston. Cartoon of a Draped Figure.—Grief—silver medal and prize (25*l.*), Kate Elizabeth Olver. Set of Six Drawings of a Figure from the Life.—1st prize (20*l.*) and silver medal, Margaret Isabel Dovaston; 2nd prize (15*l.*), Samuel Rahamin Samuel; 3rd prize (10*l.*), Mabel Genevieve Dicker. Perspective Drawing in Outline (open to painters and sculptors only).—The Staircase Leading to the Exhibition Galleries, as seen from the East of the Entrance-hall Doorway—silver medal, Daisy Radcliffe Clague. Composition in Sculpture.—Prometheus bound to the Rock in the presence of Force and Strength (Æsch., *Prom.*)—gold medal and travelling studentship (200*l.*), Thomas John Clapperton. Model of a Design.—Jacob Wrestling with the Angel (Genesis, chap. xxxii.)—1st prize (30*l.*), George Duncan Macdougald; 2nd prize (10*l.*), Ferd. Victor Blundstone. Set of Four Models of a Figure from the Life.—1st prize (20*l.*) and silver medal, George Duncan Macdougald; 2nd prize (15*l.*), Frederick Lessore. Design for a Medal.—A Design for a Prize for Agriculture, with an inscription on the Reverse—silver medal and prize (10*l.*), George Duncan Macdougald. Model of a Bust from the Life.—Silver medal, 1st, not awarded; 2nd, Helen Frazer Rock (disqualified owing to having received the same prize before). Design in Architecture.—Design for a British Embassy in a Foreign Capital—gold medal and travelling studentship (200*l.*), Leslie Wilkinson. Set of Architectural Drawings.—The Hall of the Charterhouse—silver medal, 1st, Alfred Alexander Carter; 2nd, Albert Edward Brooker. Set of Architectural Designs.—Prize (25*l.*), Leslie Wilkinson. Set of Drawings of an Architectural Design.—1st prize (15*l.*), Alfred Alexander Carter; 2nd (10*l.*), William Harvey. Original Composition in Ornament.—prize (10*l.*), William Harvey. Perspective Drawing in Outline (open to Architects only).—The Rood-loft of the church of Bois-le-Duc in the Victoria and Albert Museum—silver medal, no competition. Architectural Design with Coloured Decoration.—A Mosaic Pavement for the Hall of a Fishmongers' Company—silver medal, no competition. The Landseer scholarships in painting and sculpture, of 40*l.* a year each, tenable for two years, have been awarded—in painting, to Francis E. Fitzjohn Crisp and George Frederick Bird; in sculpture, to Louis Fritz Val Roselieb and George Alexander. Landseer scholarships of 40*l.* a year each, tenable for one year, have been awarded—in painting, to Harold Notley; in sculpture, to George Duncan Macdougald and William Charles King.

TURKISH ARCHITECTURE.*

(*Concluded from last week.*)

THE development of Turkish mosque-building, originally founded on S. Sophia, gradually evolved in experimental adaptations, such as the Bayezid Mosque, and arriving at maturity and progressive accomplishment in the Mosques Shah-Zadeh, Suleiman, Ahmed and Yeni Valideh, has thus been briefly reviewed, but only in general terms, and barely touching on many essential questions. Perhaps the best way to crystallise the generalities in more definite form will be to select one of these mosques as typical of the others, giving a more detailed description, and illustrating it with more complete measured drawings. For this purpose I propose to choose the Mosque Yeni Valideh, which I have already mentioned as summing up very completely the normal and regular characteristics of the fully-developed style.

The detailed plan shows several points more clearly than was possible on the smaller scale. One of the first points which would strike a practical architect is the great flights of steps up to the various entrances. The floor-level of the mosque and forecourt is raised about 10 feet above the surrounding ground, and this is by no means unusual. A fine approach and base is thus given to the building, but I have failed to establish any more practical reason for the custom. The Turks, however, repeat vague tales as to vast cisterns beneath the floor, and the well-known cisterns beneath S. Sophia give point to their probability.

The forecourt is set out in accordance with the traditional method, so that its outer walls form a continuation of those of the mosque. The walls are 6 feet 1½ inches thick, practically the same thickness as those of the mosque itself, and their massiveness is somewhat surprising when their comparatively small height is considered. The court forms an exact square, but the wider intercolumniation of the central entrances makes some of the bays rectangular and their cupolas oval in shape. A curious effect of the independent spacing of the forecourt and the mosque is that the windows in the western wall of the mosque, common also to the forecourt, often occur out of centre with the bays of one or the other. As in this case, the effect from the forecourt seems usually to have been considered more important, and the windows have been set out in relation to its bays, with the result that they occur irregularly in the mosque. On the plan it is startling to see the main arches coming so recklessly over window openings.

Another instance of the same kind occurs in the main north and south porches. These fill the spaces between the minarets and the great buttresses, and their three bays are set out quite independently of the internal divisions. At the east end of the mosque are two smaller entrances, that at the north-east being reserved for the exclusive use of the Sultan. Other external galleries fill up the remaining spaces between the buttresses. Their only use seems to be the shelter and sleeping-place of horrible beggars and yet more loathsome lepers.

The setting-out of the mosque itself is largely controlled by the relation of the semidomes to the domes; the aisles are approximately half the width of the central square, and the width of the external galleries is about half the width of the aisles. The repeated dimensions agree with almost absolute accuracy, the angles are set out with mathematical truth, and in all the plans which I have measured the same precision seems to have been observed.

The ritualistic fittings are few and simple. The Mecca-niche is placed in the centre of the eastern wall, and to the right is the pulpit for the Friday reading of the Korân. A mastaba or platform for those who chant the public prayers is placed against one of the main piers, and low galleries run round the outer walls. These galleries are supported by light arcading, and are usually independent of the structure; but a broad gallery extending across the west end is here supported by the piers and forms an integral part of the building. The galleries increase the accommodation of the mosque at special festivals, and are also used by the professors for teaching their classes, for the mosques are educational establishments on a very large scale.

The longitudinal section is taken on the main axis of the mosque and forecourt, and shows a complete section of the main dome with its arches and piers, the semidomes with their lesser semidomes and supporting arches, the western gallery and entrance and a portion of the forecourt with its central fountain. It will be seen that the interior is of high proportions, and the scale may be appreciated by the size of the figure drawn in one of the doorways. The lower gallery is 50 feet 7 inches from the floor, the gallery around the base of the dome is 91 feet 3 inches from the floor, and the summit of the dome rises to about 132 feet from the floor, or about 142 feet from the ground. It should, of course, be remembered this mosque is one of the smallest of the greater mosques.

The walls, piers and arches are constructed of limestone. Marble is used for the galleries, the mastaba, the pulpit and the Mecca-niche, worked as masonry and not as a veneer. The four main piers are covered with dark-blue diapered tiles up to the springing of the lower arches. The lower gallery marks the springing of the subsidiary apses and follows their curves on plan, and corbelling, built out beneath it, prepares for its reception on the square outline of the lower plan. The gallery itself is formed by the projection of a great corbelled cornice, and the pathway is protected by an iron railing.

The subsidiary semidomes are closed over by low-proportioned arches, and the pendentives between them bring the plan to a true semicircle. The semidome above is not a continuation of the pendentives, and there is a distinct break of surface at the junction. The lower part of the semidome is buttressed externally and pierced with a range of windows, and a slight cornice above them marks a second break of surface. Above this cornice the semidome springs afresh, and is completed without further interruption. These changes from the form of a true semidome are unnoticeable from the floor below, and they may be seen properly only on a close inspection, and especially by observing their intersection against the backs of the main arches. Their effect is to increase the spaciousness of the semidomes internally and to give them additional importance externally, and they were doubtless introduced to counteract the foreshortening of perspective produced by the great height of the building. As may be expected, these refinements appear only in the later mosques.

The main dome is carried by four great arches 7 feet 7 inches wide, and its circular plan is produced by simple pendentives. A deep cornice of stalactite corbelling is set above the pendentives, and its projection forms a gallery around the base of the dome. Earlier domes usually spring with a slightly stilted curve immediately above the pendentives, having a range of windows and buttresses at the base. Here, however, the dome is raised on a definite drum, and the windows and buttresses are applied to it instead of to the dome. The builders seem to have been aiming at a greater effect of space and height, and the treatment bears out the suggestion which I have made as to the semidomes. The wall of the drum is slightly inclined inwards and pierced with twenty-four windows, and above them the inner surface of the dome is slightly projected on three courses of stalactite corbelling. The internal diameter of the dome is 53 feet 6 inches.

The drum of the dome is built of brick, plastered internally, and with its external buttresses covered with heavy sheets of cast-lead. The dome itself is also covered with lead externally, and internally its material is concealed beneath a coating of plaster or repeated whitewashing; but I have little doubt that it is also constructed of brick. The pendentives of the dome and its four great arches are built of stone. The semidomes are covered externally and internally as the dome, and are probably built of brick, while their subsidiary apses and pendentives are of stone. Brick was obviously used for the sake of its lightness and adaptability, and it was invariably concealed from sight. In early mosques the buttresses and windows of the dome and semidomes are occasionally built of stone and remain uncovered.

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* A paper by Mr. E. F. Reynolds, read before the members of the Architectural Association on December 1.

I could have wished to throw some light on the construction of domes such as this, and also on its relation to he construction of Byzantine domes, but I regret that I can give but little definite information. In the earlier domes he springing of the curve is considerably below the top of the buttresses, so that some of its possible thrust is absorbed by them; and, moreover, certain additional flying buttresses point to this intention. But in this mosque the curve of the dome springs from the top of a drum and above the buttresses, so that the principle of abutting any thrust is put out of the question. The only alternative is to regard the dome as constructed in such a way as to have no thrust, and whether this is effected by means of a system of bonding stones or chains, or by some adjustment of the jointing, I can offer no opinion. Constant familiarity with domical construction has given Oriental builders certain methods which, to our inexpert timidity, seem almost impossible, and these methods become the more mysterious and tantalising in that they are practically inaccessible to investigation.

The form of the dome is slightly pointed, but in some cases becomes practically spherical; the curves of the smaller cupolas are occasionally continued up to the apex by tangential straight lines, as is customary in the domes of Cairo. The four main arches of the dome are pointed and stilted, and the arches of the subsidiary apses are depressed and probably struck from four centres. The half-section looking toward Mecca shows the external galleries, which fill up the projection of the great buttresses, the internal gallery and half of the Mecca-niche. The half-elevation toward the east shows the main walls rising to a constant cornice-level, the drums of the cupolas and subsidiary semidomes emerging from the flat roof, the ranges of windows and buttresses to the semidomes, and finally the dome itself. Four octagonal turrets are built over the piers of the dome, and their weight materially assists in securing the main arches. The great buttresses are stepped up to them, and an octagonal cupola is set on each step.

The sides of the mosques are the most conspicuous at close quarters, for the west end is screened by the forecourt, and at the east end is usually a garden. The lower parts of the sides are occupied by the porticoes and external galleries, and a great overhanging roof shelters the fountains of ablution below. Above this pent-roof the walls are arched in correspondence with the internal divisions, and crowned with a cornice which completes the square base of the whole building. Above this cornice the various domical forms fall within an approximately pyramidal outline, the minarets freeing themselves of all attachment, and soaring upwards high above the dome.

One of the most striking features of these mosques is the great number of their windows. All of them are small and of about the same size, and they are filled with roundels of glass embedded in plates of plaster tracery. This principle of minutely subdividing the lighting areas is characteristic of the East, and is due to the need of tempering the dazzling sunlight; and the preference for a large number of small windows, scattered more or less equally throughout the building, completes the same idea on a larger scale. The same traditional tendency is shown in the forecourt, where each bay has two openings, although only one storey in height. The lower windows of the mosque and forecourt are square-headed, and have a shallow architrave around them, and the upper windows have arched heads, the arches being formed with two segments at the springing and continued with straight lines to the apex.

The masonry is built of white limestone in fairly large blocks, the courses are more or less continuous, and vary considerably in depth, and the joints are fine. Marble is introduced in the porticoes and galleries, the shafts being dark red, or veined with violet, and the balustrades are of some white variety. Discs of green and red marbles are inserted here and there in the masonry, and the voussoirs of the arches are alternately pink and white. The entrance doors are usually built of marble masonry, and the alternation of colour in the arches is often carried down the jambs.

The roofs, including the domes, are everywhere covered with lead, and some such material was necessary to protect them from the violent thunderstorms which gather in the Black Sea and sweep suddenly over the city. The lead is cast in heavy sheets and applied with rolls, and the water drips from the edges without gutters.

A curious point may be noticed with regard to the great buttresses. As has already been said, these had always existed within the building, but in the Suleiman Mosque, with its increased scale and height, they appeared for the first time above the roofs. In the Suleiman Mosque only two of the main arches are open to semidomes, the other two being filled with tympanum walls, and accordingly the buttresses were built on the north and south only; and in the Ahmed Mosque, with its four semidomes, they extend on all four sides. Here, however, in the Yeni Valideh Mosque, they extend on the north, south and west sides, but not on the east side. This variation is curious, for if the buttresses were necessary on any of the sides they are equally necessary on all. It can hardly be supposed that such great erections were built merely for effect, and it becomes an interesting question as to how they could have been dispensed with on the east side of this dome. The only reason for their omission which I can offer is that the buttresses block up certain windows in the semidomes, and that a complete range of windows was desired in the eastern semidome above the Mecca-niche; but, at the same time, this desire for the removal of the buttresses does not provide the means of doing so.

I should here like to make a statement as to the degree of accuracy represented by these measured drawings, for reproductions of them may possibly be used as documents of reference. The small-scale plans may be taken as perfectly correct so far as they go; that is to say, in all the main dimensions, the thicknesses of walls and the spacing of windows. In some cases I will not vouch for the accuracy of such details as the projection of steps, &c., and the non-structural fittings of the interior have been omitted. The small-scale sections are mere diagrams. The more detailed drawings of the Yeni Valideh Mosque may be taken as correct in all essentials, and also in such decorative detail as could be shown on a scale of 12 feet to an inch. The building is remarkably accessible to measurement, for winding staircases in the great buttresses lead up to the flat roofs, the domes, and the internal galleries; and nothing could give a more vivid realisation of the scale and method of building than to climb among the buttresses and cupolas as though they were the peaks and crevasses of a mountain. The dome was measured up to the cornice of the drum, but above that level its height has been judged by observation and from distant photographs. Another test, however, was applicable from the coincidence that the second balcony of the minaret is practically on the same level as the summit of the dome, and the height of both may be taken as probably correct within a foot.

The minarets give more character to the mosques and to the whole city of Constantinople than any other single feature. The value of their slender height in contrast with the domed mass of the mosque has already been mentioned, and without its minarets Constantinople would be hardly recognisable. No mosque was ritually complete without a minaret, but the desire for increased magnificence soon multiplied their number. Their primary use was to elevate the "mueddin," who summoned the faithful to prayer, so that his voice might be heard above the surrounding roofs; but the minarets grew quickly beyond this first necessity, and if the "mueddin" were to chant his call from the upper balconies of later minarets his voice would be almost lost in the clouds. The minarets are also used for illumination, and on the nights of the great religious festivals their balconies glitter with thousands of lamps all over the city. The minarets consist of an enclosed winding staircase, which emerges at various levels on to balconies projected on stalactite corbelling. The construction is strong, and they rise to prodigious heights, but I have no dimensions of the largest instances. The minarets of the Yeni Valideh Mosque rise to about 240 feet above the ground, but several in Constantinople must be considerably over 300 feet in height. The roofs are steeply conical, framed with wood and covered with lead, and terminated with a finial bearing the crescent. The smaller minarets have two balconies, and none have more than three. The design of all the minarets is practically identical, the shafts being polygonal and slightly reduced in diameter above each balcony. It has been said that Turkish minarets are the ugliest form of a singularly beautiful feature, but I think they may claim to have that relative fitness which is the greater part of beauty. Although in themselves they may lack the rich outline of Cairene minarets, yet Cairene mosques have not that complexity of cupola and dome to which the severer elegance of the Turkish minaret acts as a necessary foil.

So far little has been said as to the internal decoration and effect of these mosques. Many of them have lost much of their original splendour, and are now largely decorated with nothing more elaborate than whitewash. But even this harmless treatment is better than the horrible mixture of corrupt Saracenic and Rococo painting with which the modern Turk has desecrated some of the mosques. Painted decoration of a different character, however, was always an important and legitimate method of lending interest of colour to architectural form, and where a more permanent means of decoration was unavailable a system of painted pattern completed the intention of the original builders. Such decoration has usually been obliterated by subsequent whitewash, or only partially remains; but one great mosque—the Ahmed—has entirely retained its original painting, although restored to some extent. The upper parts of the walls are covered with diaper patterns of conventional foliage and flowers, and the arches and domes are bordered with running designs and set with foliated discs at the crowns. The pattern is applied on a white ground, and the colours are chiefly blues and greens, brightened here and there with red, and the effect would doubtless be very beautiful if the brightness of the innumerable windows was still tempered by their original tracery. But modern glazing has here done its worst, and in the excessive light the gaiety of colour appears tawdry and even vulgar. In the Yeni Valideh Mosque traces of a very complete decoration may be detected under the whitewash of the semidomes, the designs being large in scale and constructed with interlaced arabesque. Little actual colour remains, however, save the alternate green-painted arch-stones and great circles of Arabic inscriptions in the pendentives and at the crown of the dome.

But if the perishable quality of paint has deprived the upper walls and domes of their decoration, the lower parts often still retain their more enduring tilework, and the glazed surfaces give a brilliance and lucency of colour which no paint could achieve. The earlier tiles are of a rich azure blue laid on a white ground, or conversely treated, and geometrical shapes or foliage with pomegranate flowers are the principal decorative motives. The fertility of design is amazing and the combination of different effects most ingenious, while the prevailing blue and white gleams here and there with most effective touches of emerald green and red. A wider range of colour and pattern was used in later tiles, but with the widening of resource came a tendency to over-elaboration and ineffective cleverness. The tiles are fairly large, and the pattern seems to have been painted on large slabs afterwards cut up for the process of firing, for the joints often have no relation to the design. The tiles were imported, and their designs were obviously inspired by Persian influence. Such tiles were used for the partial decoration of the greater mosques, and especially for the enrichment of the Mecca-niche, but the interiors of the smaller mosques and the *türbehs* or tombs were sometimes thus decorated completely. The mosque of Rustem Pacha is one of the finest earlier instances of this treatment, and the *türbeh* of the Shah-Zadeh Mosque is a good example of the later work.

The essentially Oriental method of decoration is the application of colour to the flat constructive surfaces, and is opposed in principle to the Western method of light and shade by relief. S. Sophia is a pre-eminent instance of this Oriental method, and its marble plating and mosaic were represented in the Turkish mosques by tilework and painted decoration. Hence carving was comparatively unimportant, and it was chiefly used for the enrichment of the ritual fittings, and was rarely applied to the main structure except in the form of stalactite work. This, however, is a large reservation, for such work was almost invariably employed to effect modifications of form. Thus, in the capitals, the change from circular or octagonal shaft to square springing is managed by some arrangement of stalactites, the corbelling of the subsidiary semidomes and minaret balconies is worked in courses of stalactite work, and the recesses of the niches and portals were covered over by deep heads of stalactite vaulting. Cornices, too, were frequently carved with a shallow version of the same work. Stalactite work may be defined as a horizontal and vertical series of arches, those of each course springing from the apices of those below, so that the general surface advances by degrees; but the original scale of the arches was gradually reduced until they became a mere sculptured mimicry, no longer arcuated, but corbelled in construction. This freedom from structural limitation allowed a complication of plan form and grouping which defies description, and sometimes almost defies analysis, and the later stalactite work may be regarded as the *tour de force* of that mathematical ingenuity which has always distinguished the Oriental mind. I can make no attempt here to inquire into the characteristics and development of stalactite vaulting, for so intricate a subject would need a whole paper to itself.

A somewhat rare application of carving occurs on a small *türbeh* in the garden of the Mosque Shah-Zadeh. On each side of the entrance are two marble slabs, carved with a flowing geometrical pattern interwoven with foliage and flowers. The relief is low, and the chiselling most delicate, but, apart from its beauty, the treatment is interesting as being a carved version of the decorative motives characteristic of tilework.

The greatest richness of carving was lavished on the pulpits. The spandrils of the steep flight of steps were wrought with intricate geometrical devices, and the balustrades were pierced with similar patterns, while the platform at the top was covered with a canopy set on a fourfold arcade.

Another feature especially selected for enrichment of carving was the fountain in the forecourt, mainly, no doubt, because of its ritual significance, but with most happy architectural effect. The earlier fountains were often shaded by a pent-roof supported on shafts; but the single fountain was soon found inadequate, and later mosques have long ranges of washing-places under the external galleries, the fountains in the forecourt being retained as cisterns. These later fountains are usually octagonal, with engaged shafts at the angles carrying arches, and with the interspaces filled with bronze or marble grilles. The cistern is enclosed within this octagonal arcade, an outlet for the water being pierced through each side, and the whole is crowned with a crested stalactite cornice and covered with a cupola. The whole forecourt, with the central richness of the fountain, with the marble arcades and repeated cupolas of the surrounding cloister, with the foliage of cypresses and vines, form delightful places of cool shade and interwoven sunshine; and toward the east the towering walls of the mosque pile up to the countless domes.

All the carved work, except the corbelling to the semidomes and minarets, was executed in marble of a white or slightly veined variety as a rule, but sometimes of a soft red marble for the capitals. The material encouraged great refinement of finish both in scale and technique, a refinement which well accorded with the general precision of workmanship. It has already been said that the Turks had employed a very fully-developed system of decorative detail at Brûsa, and in the mosques of Constantinople the same system was used with hardly any further development, and often with greater reserve. The general tendency of carved decoration was toward a somewhat dry and mechanical manner, and much of the most beautiful work is to be found in the earlier mosques. Unlike Byzantine building, Byzantine decoration seems to have exercised no direct influence on Turkish art, and its decoration remained purely Saracenic until the final corruption with Rococo trivialities.

Thus the principal means of the internal decoration of the mosques were marble, tilework and painted decoration, and remaining instances give a hint of their combined splendour of colour and pattern. The more purely architectonic qualities of the interiors were, in some degree, subordinate to the mode of decoration, and are more difficult to appraise. The arches are unmoulded and the surfaces of the walls and domes are flat and unbroken, and if often they now look destitute and empty it is only by the loss of their essential decoration of colour. But the complex grouping of dome, semidomes and cupolas, with their various arches all springing from the four great piers and the square of the outer walls—all this is the working of that Oriental ingenuity which, to the Western mind, often seems fantastic and lacking in reasonable sobriety. Moreover, the mosques are challenged by the simpler and more familiar grandeur of their prototype, S. Sophia, and a supreme standard is thus created which no such series of buildings could endure. It would, perhaps, be wiser to withhold presumptuous judgment of an art born of a race and climate so different to our own, recognising that the prejudice of another ideal may prevent us from entirely sympathising with it, meanwhile enjoying those obvious qualities which we are able to appreciate.

Externally the broad masonry of the walls shows much of the Oriental reserve and simplicity of surface, although there is a greater tendency to effects of light and shade than in more southern Saracenic work; but above the walls the cupolas and domes break into an almost unsurpassable complexity of form. The mosques of Cairo and elsewhere mit the picturesqueness of dome and minaret above the nple rectangle of the lower walls, but their freedom can rdly be compared with the exuberance of the Turkish osque. Only one restraint was observed, the controlling tline of the whole group; but within that single limit rkish architects seem to have vied with each other in ecting the most amazing phantasy of cupola and dome. I nk that this emulation was conscious and deliberate, for hough each several part has its service of use, yet their sthetic quality was intensified by the innumerable finials the cupolas and by the development of the buttresses th miniature turrets. It may be said that Turkish art s the most northerly growth of the Saracenic stock, and at in these astonishing congregations of domes may be en the reflection of the grotesque humour of the North; t the Turks were no northern race, and the quality is rdly of grotesqueness. There may surely be no doubt at the same fantastic spirit of the East which produced e wonder of the stalactite vault wrought also these roofs bubbling domes.

I feel that I have given but the roughest sketch of the ll picture, although I have taxed your patience with a per of inordinate length, but if I were to conclude here I ould but barely have mentioned the most effective cause the beauty of the mosques—I mean their setting in the ndscape of the city. They usually crown some eminence ove the Golden Horn, and the mosque itself is but the ntre of a larger group. A garden is enclosed by screen-alls to the east, and the tombs of prince and sultan raise eir marble walls and domes amid the trees. Around the ntral group of forecourt, mosque and garden is a vast en-osure shaded with ancient trees and girdled by a wall and tered by tall gate-houses and stately portals; while ound the encircling wall again are set the libraries, the hools and the houses of charity. Thus, from a distance, e mosque is seen rising from the red roofs of the city low, a harmony of assembled cupolas, its white walls and ver domes gleaming in the sun, the foliage of cypresses rk against its brightness; while, soaring above all, the ender minarets pierce the blue sky.

Mr. R. **Phené Spiers**, in proposing a vote of thanks to e author of the paper, said very nearly forty years had ssed since he visited Constantinople, and he was only ere three weeks. Mr. Reynolds seemed to have been ore fortunate, since he was even able to make drawings the streets. Forty years ago such work was impossible ving to the number of small boys who threw stones from distance at the sketcher. However, by a fluke, said Mr. piers, he and a companion were able to get permission to aw inside the church of S. Sophia. A photographer med Abdullah was commissioned to take photographs of e church for the Paris Exhibition of 1867. Mr. Spiers d his companion joined the photographer under the etext they were assistants, and while the one used his mera the two students were busy sketching. The ruse as successful, and their right was never questioned, for e faithful frequenting the mosque did not know the differ-nce between a drawing and a photograph. The members the Association were fortunate in hearing such a lecture om the fact pointed out in the beginning of the paper. here were no books which dealt with the subject, and erefore a student could not get detailed information. It as for this reason he believed Mr. Reynolds had been led make personal observation. He congratulated him on e achievement, since there was no authoritative work which proached what they had heard that evening.

Mr. A. E. **Henderson**, who seconded the vote of thanks, id he could appreciate all the difficulties which beset r. Reynolds in his work in Constantinople. The easurement of the mosques would entail great labour, d the drawings shown round the room were superb. r. Reynolds had spoken of the colleges and the students tached to the mosques. In the smaller mosques it was teresting to find cloisters, and the students practically ved there. The professors, in conducting a class, sat at desk in the mosque, and the students gathered around em sitting on the floor. The classes started at sunrise, d by 9 o'clock to 9.30 the studies had finished, and the ouths were free to read the Korân or do other work. he paper suggested that owing to the height of later inarets it would be difficult for those in the city to hear e chant of the mueddin, as the voice would be lost in the r. The speaker said he had found that even from the ghest minarets on a fair day the criers were so prac-sed, the chant came clearly like a soft murmur all ound the city. In S. Sophia a staff of forty criers was kept, four doing duty at each service. The modern decoration of the mosques was generally the work of a Greek with very low taste, and that would account for the badness. There was one good exception in the mosque of Little S. Sophia, where he believed the director of the museum had drawn all the designs for the colour decoration. It must be remembered, he said, that there were limitations enforced upon the designers because the human figure had to be eschewed as well as any representation of life. The decorators, therefore, could only use the lines found in flowers and foliage.

Mr. J. B. **Fulton** said they had had a most interesting paper, for it revealed to them a new style of architecture. It was a style of which they ought to have some knowledge. The Turkish mosques carried on the principles of the Byzantines, and undoubtedly that style was the finest the world had ever produced. They had seen it adapted to more modern requirements by Wren, but yet he had not achieved what the Turks had—the wonderful constructive doming over a huge floor-space, producing in effect the freedom felt in the outer atmosphere. In acknowledging their gratitude to Mr. Reynolds the speaker said their thanks were due to the Sultan for granting permission to enter the mosques, and also to the Embassy at Constantinople for assisting the author to surmount his many difficulties.

Mr. **Reynolds** briefly replied, and the meeting terminated.

QUEEN'S COLLEGE, BELFAST.

AT the last meeting of the Council of Queen's College, Belfast, a resolution cordially congratulating Mr. Robert Cochrane on his having had the degree of LL.D. *honoris causa* conferred upon him by the Royal University, in recognition of his professional eminence and of his services in promoting archæological and antiquarian research in Ireland, was unanimously adopted by the Council. Dr. Cochrane is an old student of the college who has reflected honour upon his *alma mater*, and who, as architect in charge of the college buildings for many years, has rendered it very important service.

The work of erecting a new suite of laboratories in physics and engineering, the cost of which is being provided through the better equipment fund, has been commenced. The site is on the north side of the quadrangle. The accommodation provided will include—for physics a practical classroom, a senior classroom, a lecture theatre, an instruments and preparation-room, a professor's room and an underground room for experiments requiring stability of base and uniformity of temperature; and for engineering, an engineering laboratory, a drawing office, a lecture-room and a professor's room. The builders are Messrs. Robert Corry, Ltd., and the architect Mr. Robert Cochrane, LL.D., fellow of the Royal Institute of British Architects and president of the Institute of Civil Engineers of Ireland. It is expected that the building will be ready for occupation at the beginning of next session.

The list of subscriptions to the fund for the better equipment of the college now amounts to over 40,000*l*.

WINCHESTER CATHEDRAL.

OWING to pieces of stone having recently fallen from the decayed embattled cornice of the northern spire of the west front of Winchester Cathedral, the Dean and Chapter have arranged for the western entrances to be closed, as a safeguard to the public, and for the south doorway to be used until such time as an effectual shelter has been erected. Instructions for erection of a cornice have been given, and the work will at once be proceeded with. The defective spires and their pinnacles form part of the work initiated and partly executed by Bishop Edington at a time (about 1360) when the transforming of the Norman nave into the then prevailing style of architecture was commenced. This work probably remained untouched until the middle of the last century, at which time it underwent extensive reparation. The stone used, however—that of Caen—proved here, as elsewhere, entirely untrustworthy as a weather stone, and most of the pinnacles, mouldings and other salient portions are now in a serious state of dilapidation. Attention was called to the condition of these particular parts of the west front in the recent reports of Mr. J. B. Colson and Mr. T. G. Jackson, and the work of preservation necessary is included in that for which the Dean has appealed to the public for funds in order that it may be dealt with adequately.

The work at the eastern end of the cathedral is being proceeded with. All preliminary shoring and strutting, the consolidation of the walls and the binding-in of the huge cracks on the south side of the retro-choir are bein effected preparatory to the more serious operation of underpinning the foundation. This may prove a costly and tedious process, as the presence of water below the footings, which naturally must not be pumped out to any extent, renders it necessary that only a very small portion can be dealt with and no work of any great bulk can be executed at one time. The difficulties of the task appear to be thoroughly appreciated by the architects, the builders and their staffs, and every precaution for the due safety of the building during the delicate operations necessary is being taken, as is evidenced by the completeness of the shorings and supports that have been erected.

ARCHITECT'S FEES.

THE duties and emoluments of Mr. James H. Langlands, Dundee School Board architect, have for some time engaged the consideration of the Board. A special committee deputed to deal with the matter have prepared the following minute for presentation to the Board:—

(1) That the existing arrangement with Mr. James H. Langlands should cease on December 31 current; that he be appointed architect to the Board during their pleasure for the erection of new schools and additions or alterations to existing schools exceeding in estimated cost the sum of 500*l.*, at a rate of commission on the cost of the building exclusive of the cost of the ground and the school furniture, in the case of new schools of 2½ per cent., and for alterations or additions as aforesaid of 3½ per cent.—all plans and specifications prepared by the architect being at all times the property of the Board, without fee or reward to the architect other than the said percentage on the work done, and all completed sets of plans to be lodged with the Board after they have been approved by the Scotch Education Department. (2) That a measurer be appointed for the Board, to prepare schedules of quantities for all new schools and extensive alterations as aforesaid, and to measure up all such work and any work that may be specially assigned to him under the instructions of the Board, on its completion, at a commission of 1 per cent. on the total cost of the work, including the preparation and issue of schedules. This fee, it is stipulated, shall not be included in the schedules issued to contractors, and a statement thereof shall be submitted and paid direct by the Board. (3) That a separate clerk of works be appointed, to give his whole time to the service of the Board, the exact terms of his duties and the other conditions of his appointment to be afterwards defined. (4) That the new arrangement be brought into operation on January 1, 1906, it being understood that the architect shall complete Ancrum Road school under the existing agreement so far as commission is concerned, viz. 3½ per cent.

Correspondence

Houses "Made" Abroad.

SIR,—The new British-made League will doubtless inspire hope in many an employer and employé who have hitherto suffered from unfair foreign competition.

The one-sided and unbusinesslike principle of isolated Free Trade is like a man granting all kinds of favours to strangers, and neglecting himself and family. It has always seemed to me that a nation doing its business on such lines must sooner or later feel the pinch.

Among the interesting letters on the subject I have not seen much reference to the way the building trade has been affected by cheap foreign materials. We find houses with foundations made with German cement, steps and cills of Norwegian granite, roofs covered with American slates, steelwork and glass made in Belgium, doors, sashes and mouldings from Sweden, paving from Italy, laid by Italians, and wall-papers, decorations and fittings from Germany.

It is some consolation to find the bricks made in England.

Westcliff-on-Sea. ARCHITECT.

GENERAL.

Mr. Arthur Evans, keeper of the Ashmolean museu and Mr. Barclay, head keeper of the department of coin and medals in the British Museum, have been elected b the Académie des Inscriptions et Belles Lettres as corre sponding members.

The Commission on the French Chambre will mak application for a sum of 20,000*l.* for the purpose of con structing a temporary building while the Salle des Séance is rebuilding.

M. Besnard has received the commission to paint th three ceilings of the Petit Palais, Paris. The subjec selected is the history of art in all ages.

The Council of the Royal Institute of Architects, Ireland for 1906 will consist of representatives of the Ulster Societ of Architects and of the Architectural Association of Ireland with the following members:—Geo. C. Ashlin, Frederic Batchelor, Sir Thomas Drew, Charles J. McCarthy, Alber E. Murray, C. A. Owen, W. Kaye-Parry, George P. Sherida and James H. Webb. Messrs. H. J. Lundy and Frederic Hayes were elected auditors.

A New Hall for undergraduate students of Manchester University is to be erected in Victoria Park. Mr. P. S. Worthington, M.A., is the architect.

A New Theatre is to be erected in Crowtree Road Sunderland. Plans have been approved by the buildin committee of the Corporation.

Mr. G. A. Bligh Livesay has prepared plans for a new secondary school at Seldown, to accommodate 200 scholars.

Mr. J. J. O'Callaghan, architect, of Dublin, died last week. He erected several Roman Catholic churches and convents in various parts of Ireland. He was born in 1838.

The Life-Size Model of the statue of Knox, which is to be placed in St. Giles's Cathedral, Glasgow, has now been completed in clay by the sculptor, Mr. Pittendrigh Macgillivray, R.S.A., and approved of by the committee, who regard it as in every way satisfactory. The casting of the statue in bronze and its erection in the church will cost a total sum of 1,400*l.*

The Institution of Civil Engineers of Ireland have elected the following officers:—Messrs. Wm. Ross, president; Bartley D. Wise and Joseph H. Moore, vice-presidents. The following outgoing members of the Council were re-elected:—Messrs. P. C. Cowan, George M. Ross, J. H. Hardgrave, Wm. Anderson, Prosser H. Shaw and Mark Ruddel. The new member elected on the Council was Mr. J. Allison Winn.

Mr. James Green, of the firm of Weatherall & Green, surveyors and auctioneers, 22 Chancery Lane, died last week. During a practice extending over a period of forty-six years Mr. Green acted as one of the consulting valuers to the Government, the Corporation, the London County Council, and many other public and private corporations and companies in London and the provinces.

The Ness Tollbar, between Burwell and Fordham, the oldest tollgate in the eastern counties, was on Saturday freed from tolls. The sum of 600*l.* was paid by the local bodies to the King, through the Commissioners of Woods and Forests, for the privilege.

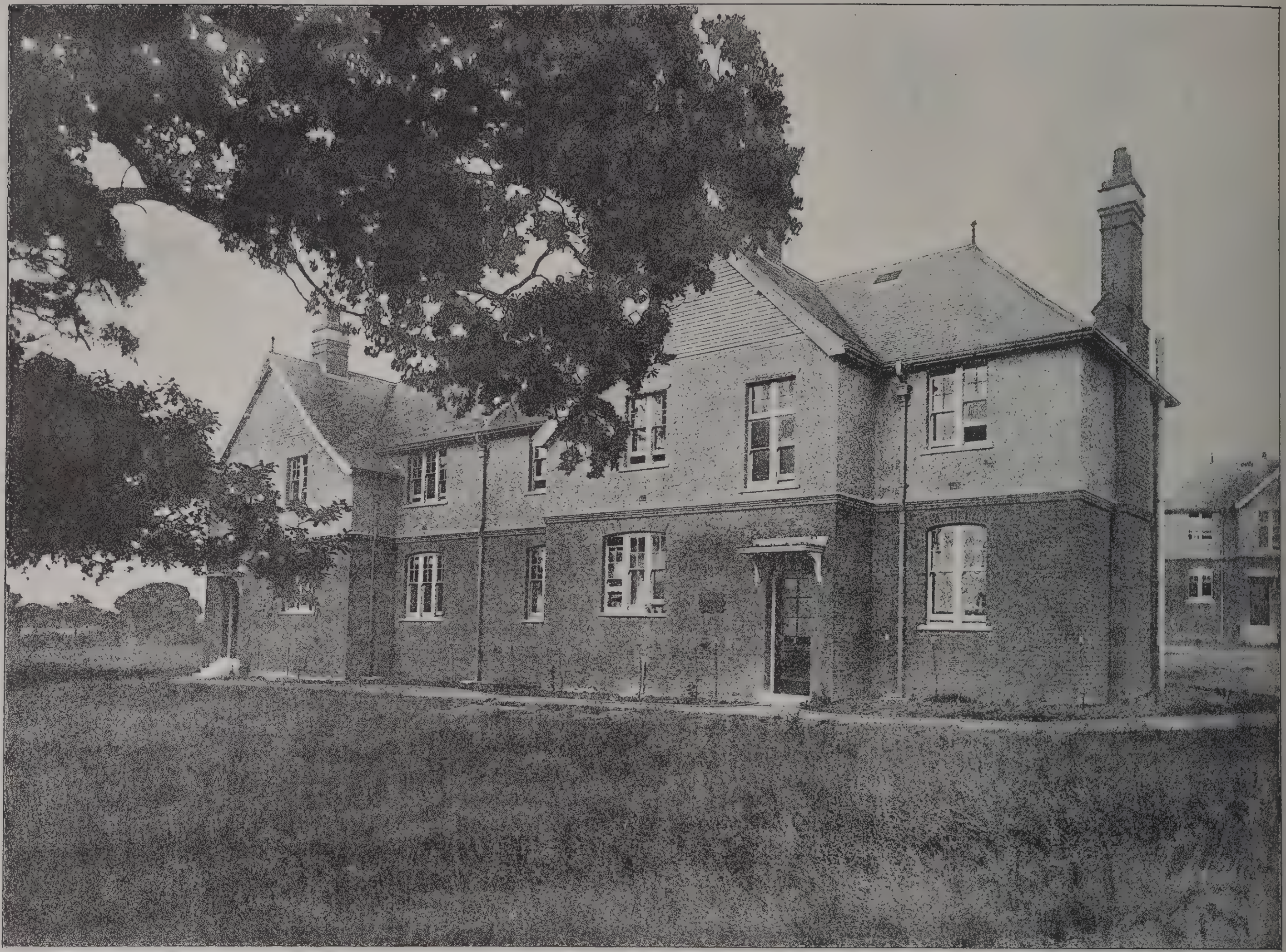
The Manchester City Council have appointed a special sub-committee to make such visits to London and other places as the Art Gallery committee may deem necessary in the interest of their work.

The Custom Returns of Rome now include the export industry in works of art. In 1899 the export of works of art amounted in value to 113,115*l.*, in 1900 to 103,483*l.*, in 1901 to 83,946*l.*, in 1902 to 106,189*l.*, and in 1903 to 111,881*l.* These figures are for paintings, statuary and similar articles. According to Mr. Consul Morgan, the business is increasing, consequent on the growing number of American dealers and collectors, who now travel to Rome for their purchases.

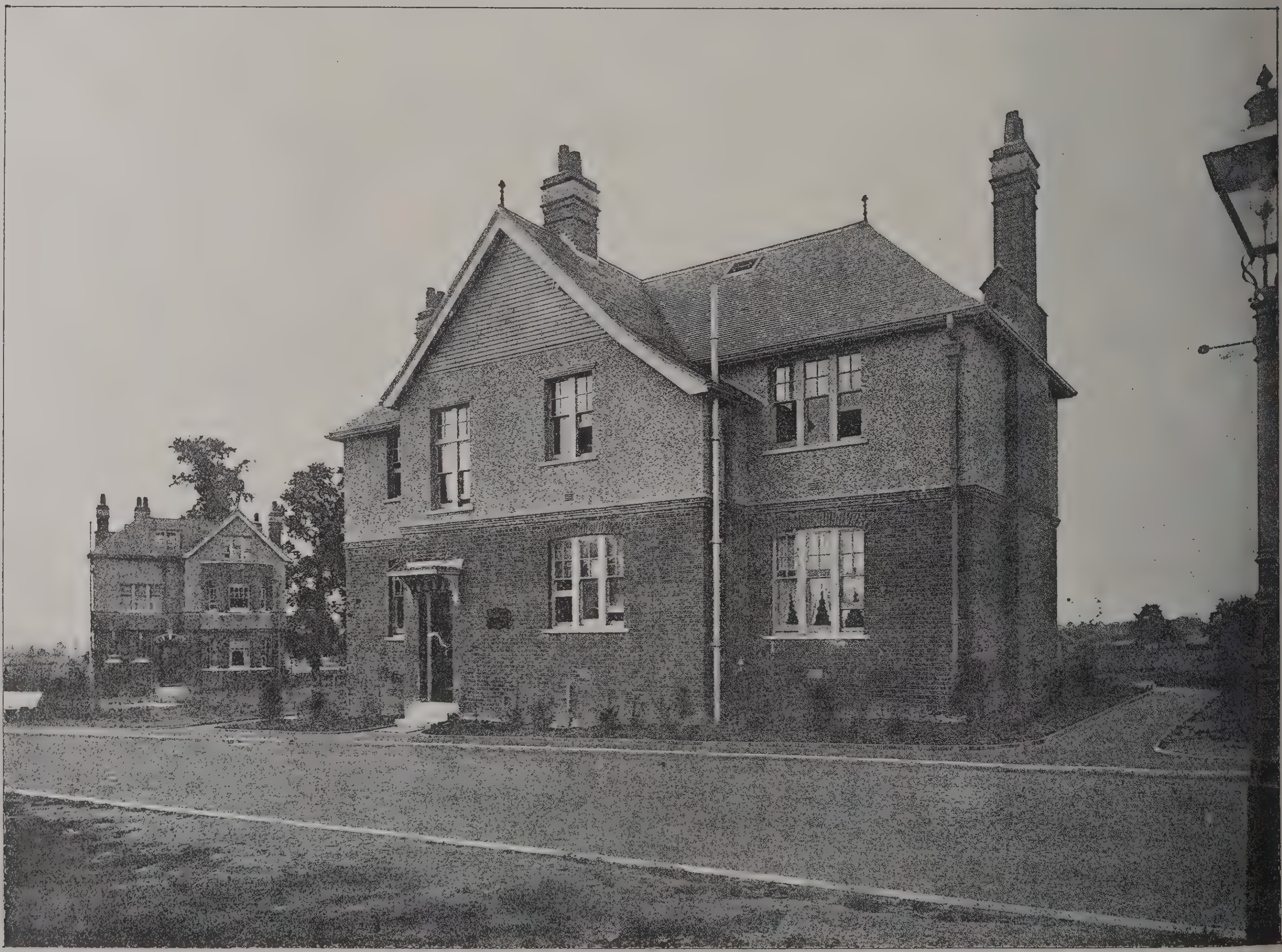
At Wednesday's Meeting of the Holborn Town Council a deputation from Lincoln's Inn Fields was received by the Mayor and Corporation, in reference to paving the roadway with "silent material" in place of the noisy and unevenly-laid granite setts. The petition which was presented by the deputation, and which was signed by nearly every firm in Lincoln's Inn Fields, was referred to the streets committee for consideration.

The Holborn Town Hall in the Gray's Inn Road is to be sold. The proceeds will be applied towards the cost of erecting new offices.

LIBRARY
OF THE
UNIVERSITY OF ILLINOIS



Double Cottage.

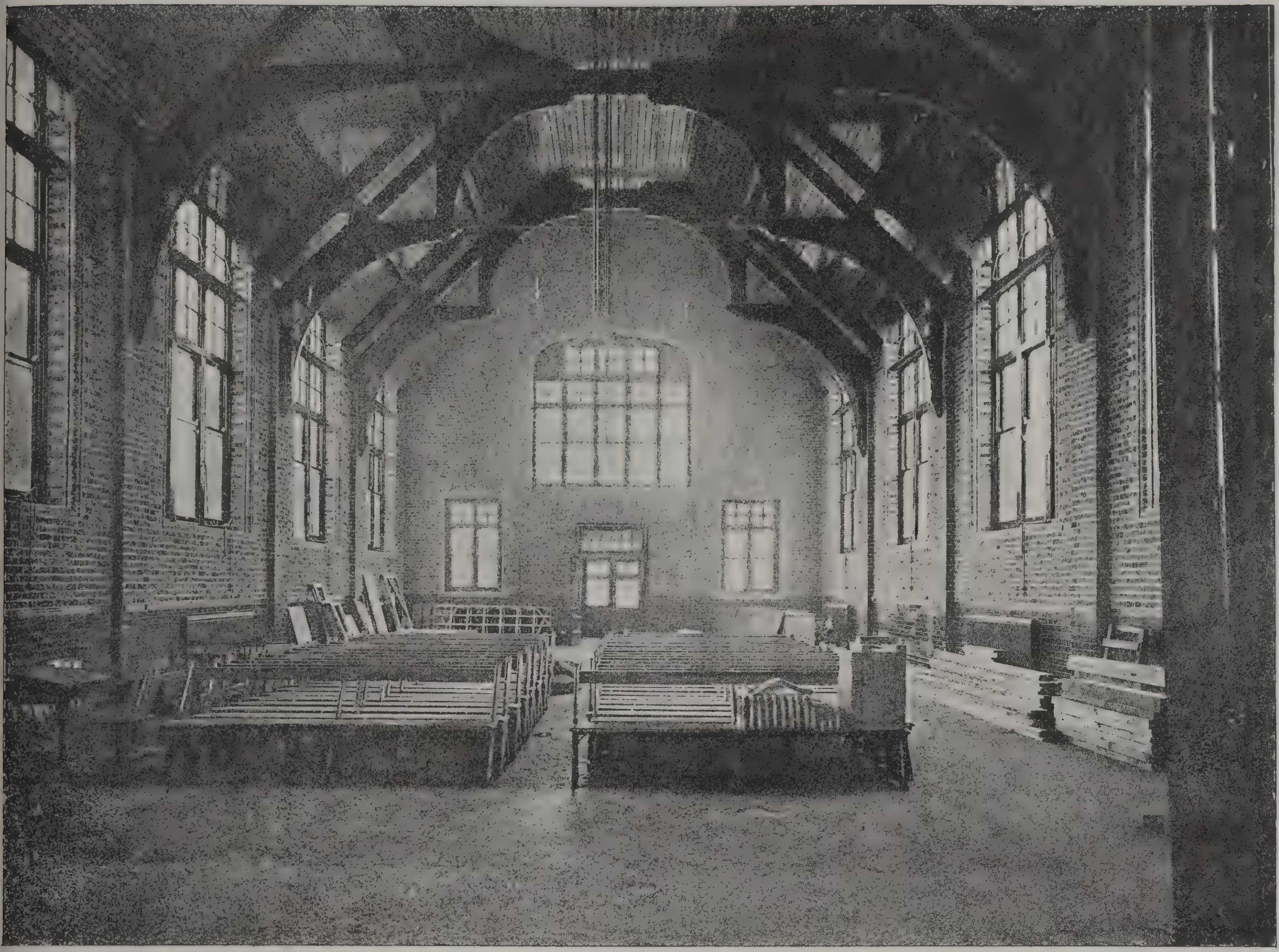


INK PHOTO SPRAGUE & C^{O} L^{TD} 4 & 5 EAST HARDING STREET FETTER LANE E.C.

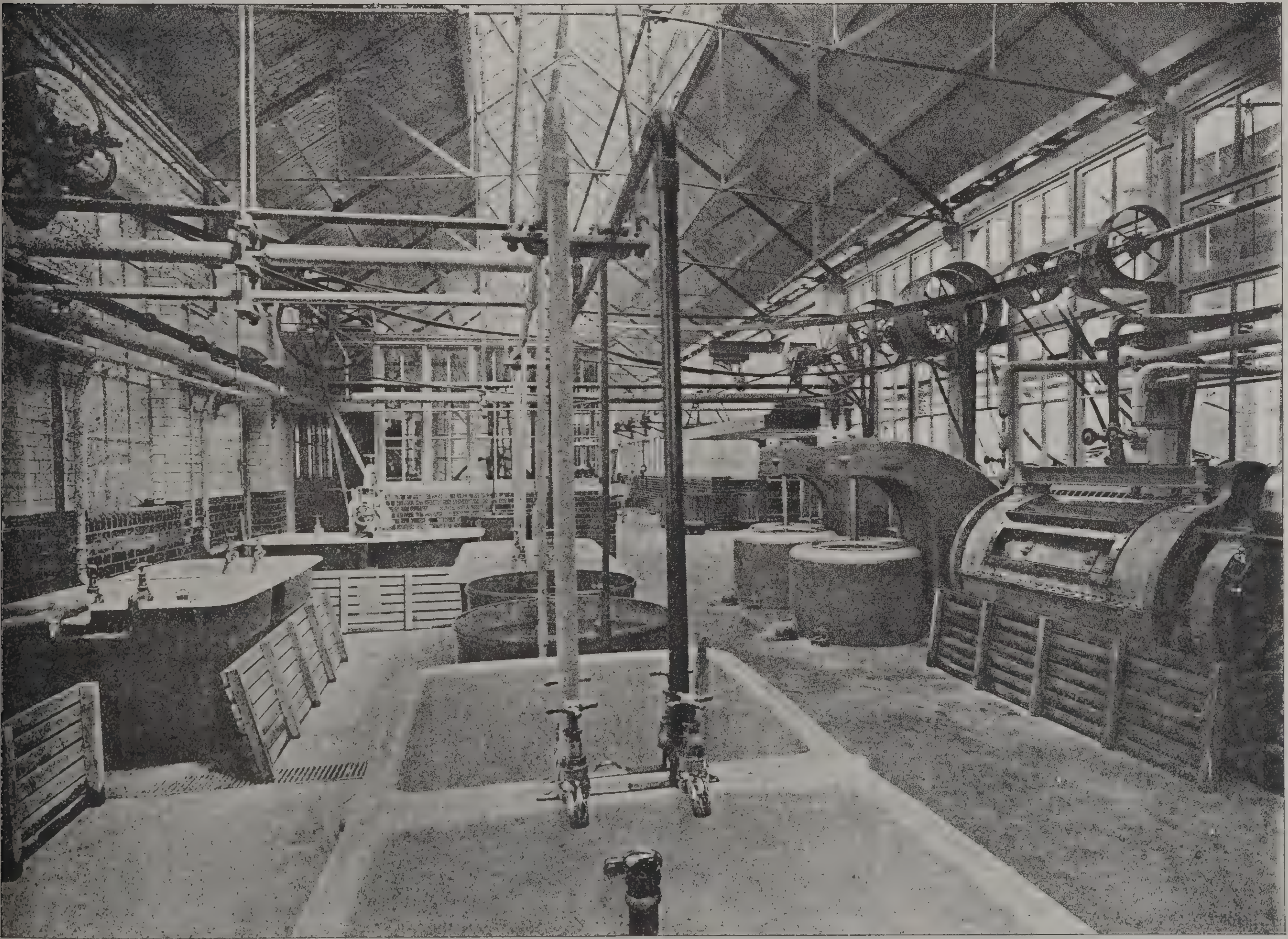
Single Cottage.

SHIRLEY SCHOOLS.

Messrs. NEWMAN & NEWMAN, Architects.



Interior of Hall.



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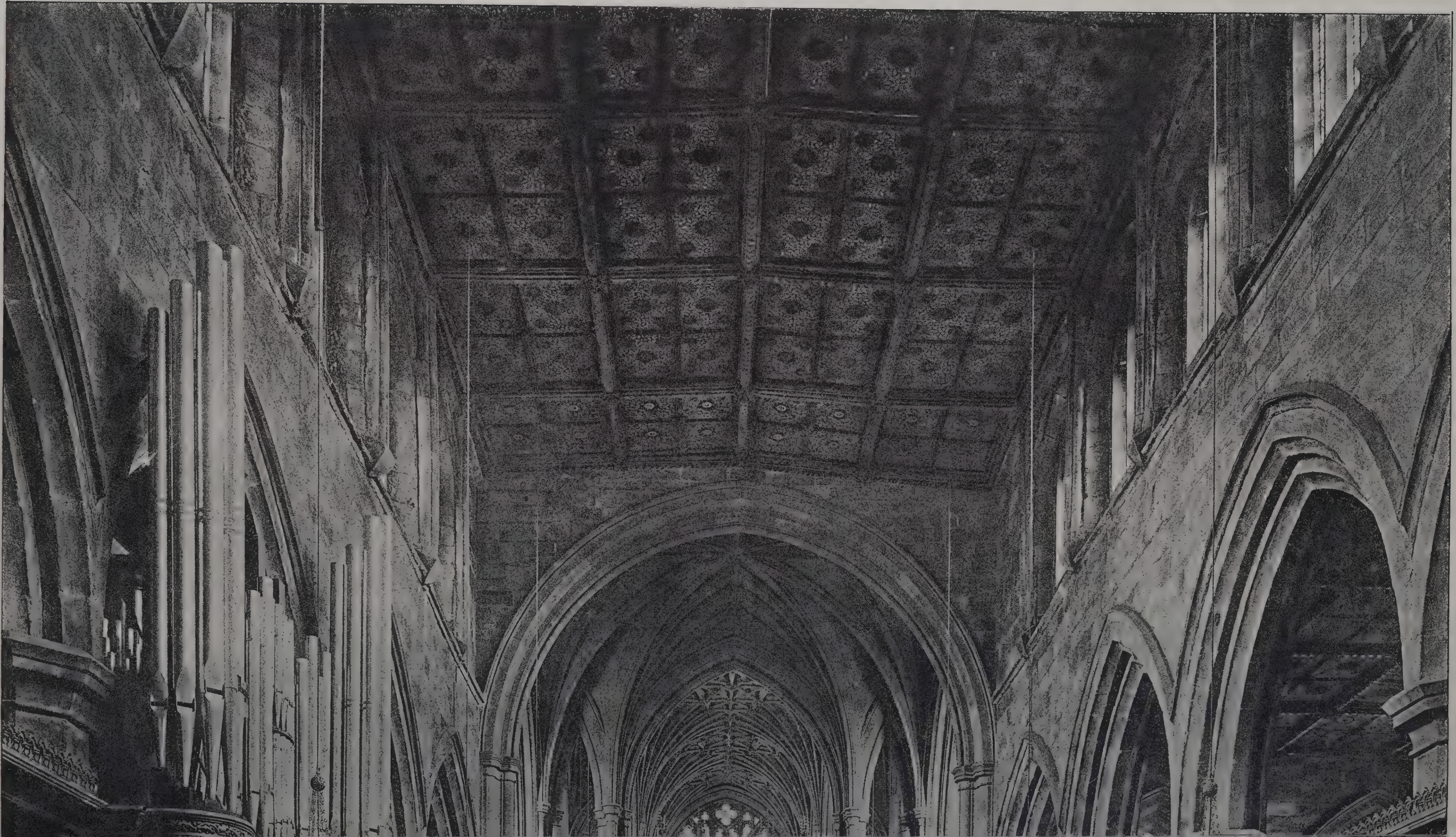
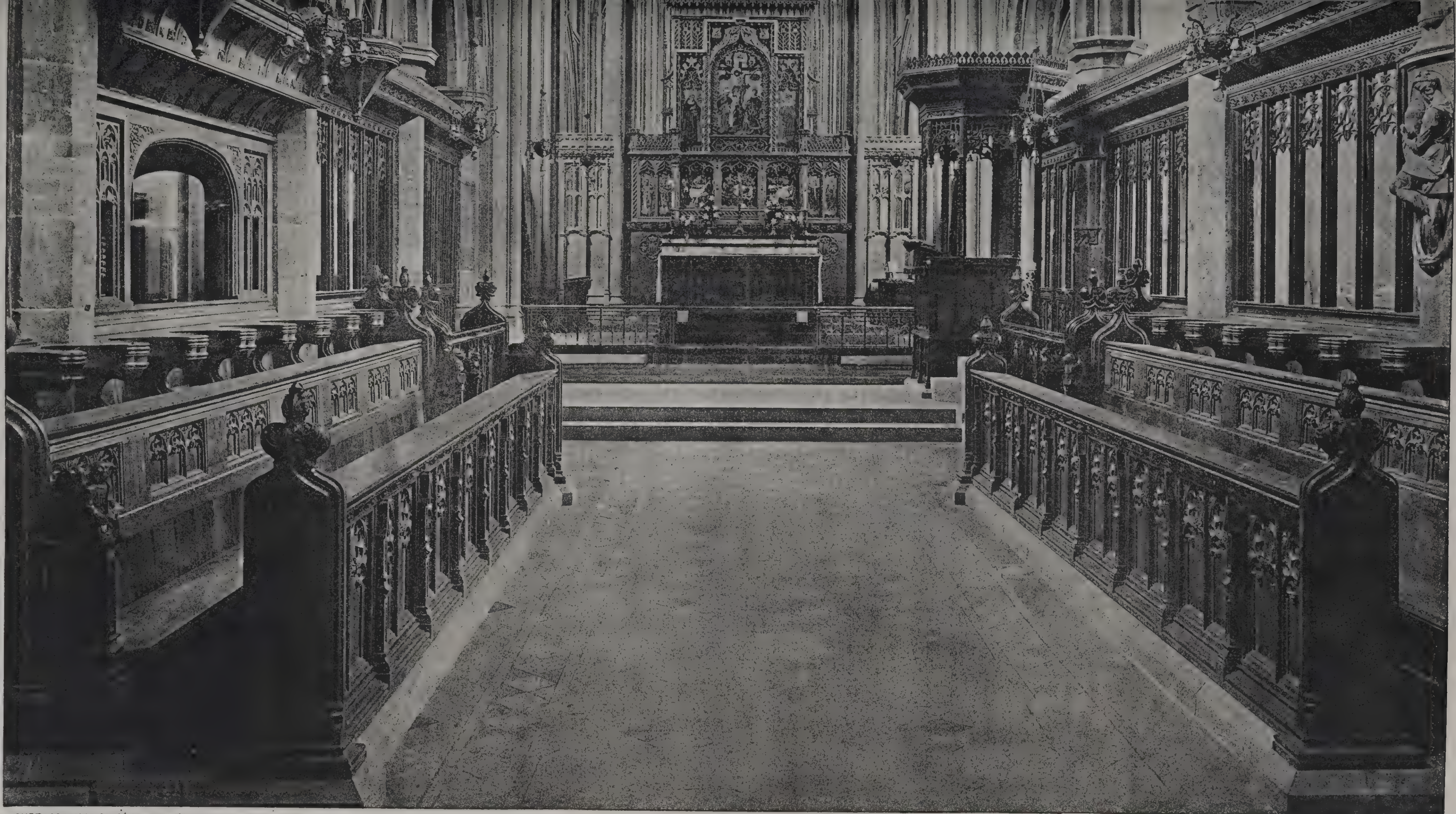
Interior of Laundry

WHITE OAK SCHOOLS. SWANLEY, KENT.

Messrs. NEWMAN & NEWMAN, Architects.





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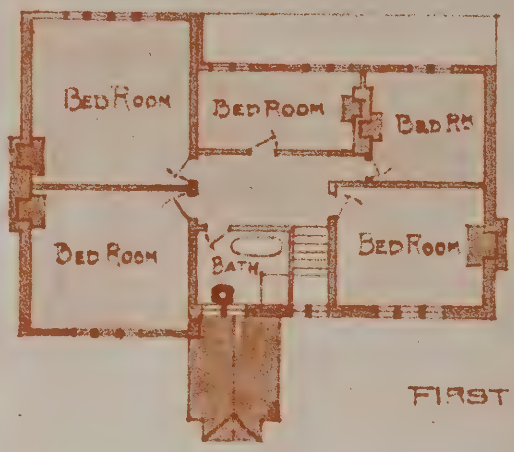
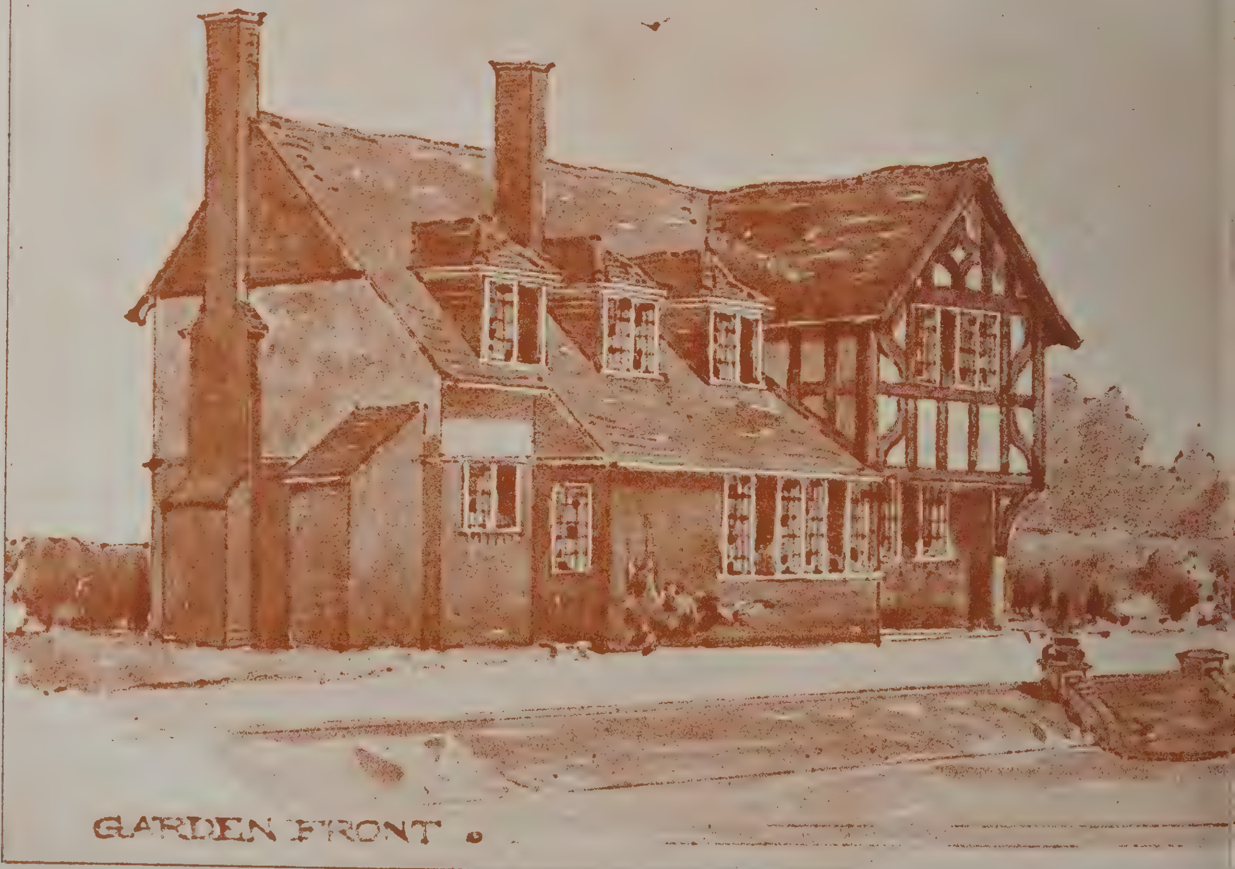
Cathedral Series, No. 545.—Wakefield: The Chancel.



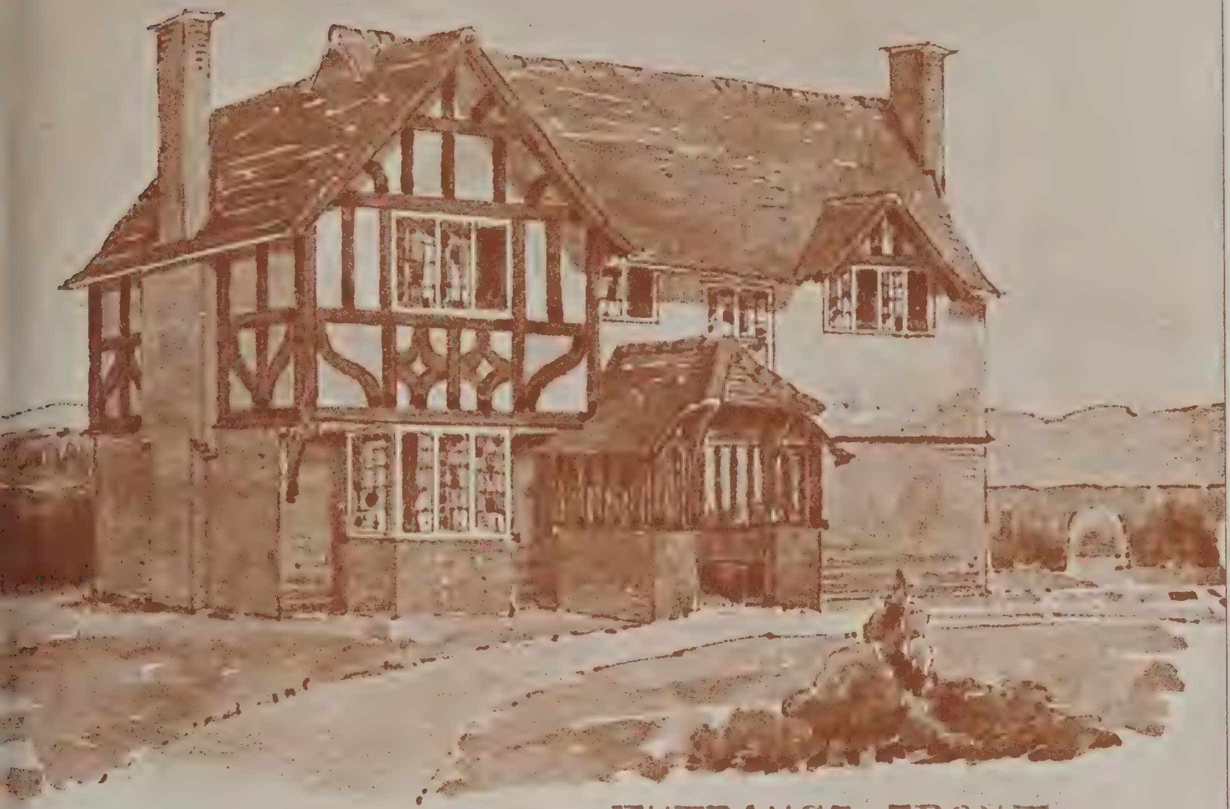
FIRST FLOOR PLAN



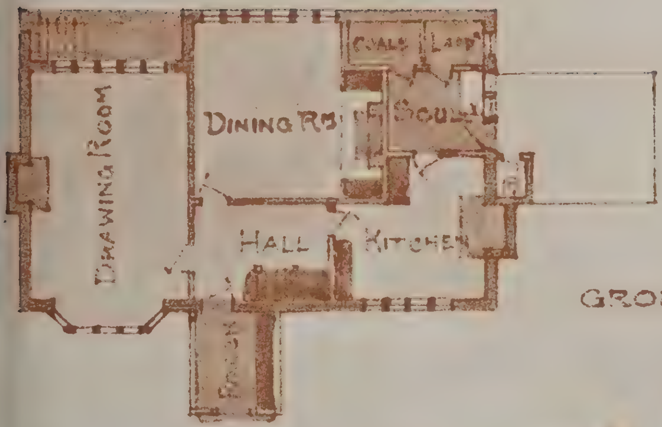
GARDEN FRONT

“ MEADOW

Messrs. THEOPHILUS



ENTRANCE FRONT.



GROUND FLOOR PLAN –

Theophilus Allen & Son – Architects –

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" HORSELL,

N & SON, Architects.

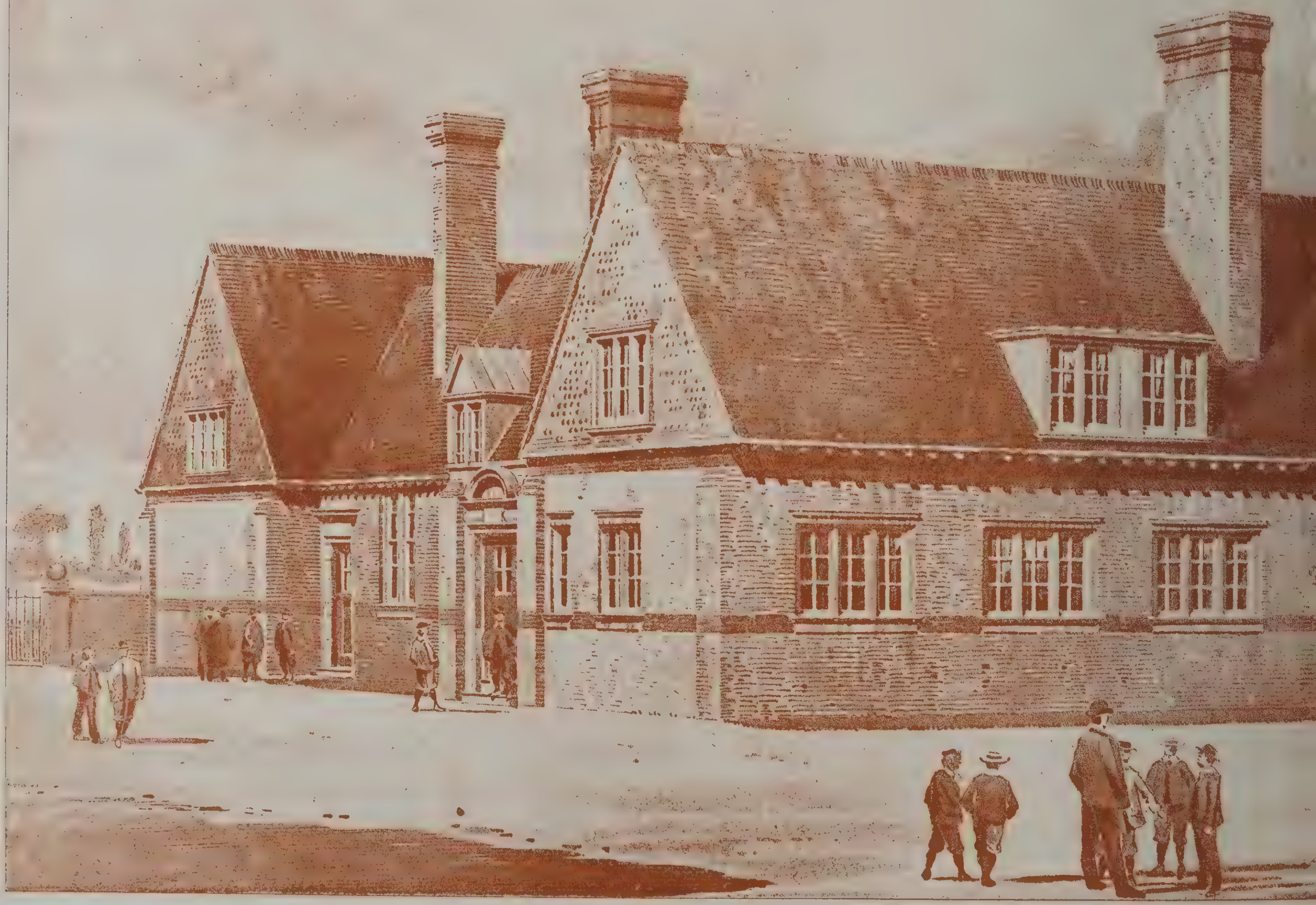
NEW SCHOOLS

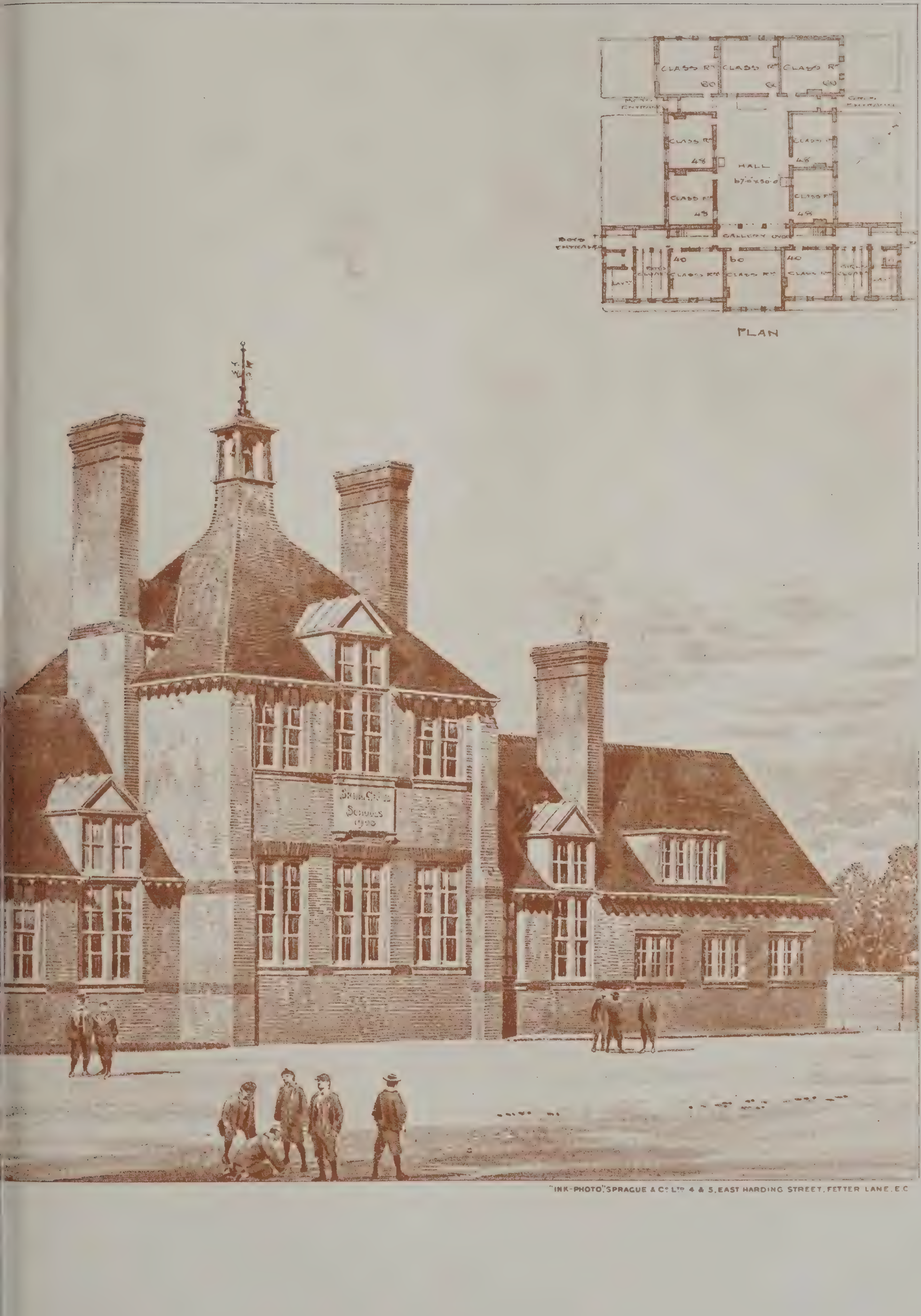
SPRING GROVE ISLEWORTH W

TO ACCOMMODATE 500 CHILDREN

FOR THE HESTON SCHOOL BOARD

H. O. CRESSWELL ARCHT





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The Architect.

THE WEEK.

It is satisfactory to find that the prejudice against the employment of sculpture in Congregational churches is losing some of its force. A new building is nearly completed at Newland, near Hull, and the tower will be adorned with figures representing several modern workers for Nonconformity. The choice has not been confined to one section. Dr. Thomas Chalmers, who led the great struggle for emancipation in Scotland, will stand for Free Presbyterianism; Dr. Dale, of Birmingham, is another worthy whose influence was extensive; Edward Miall was the literary representative of the liberation movement, for as a militant journalist his efforts were unceasing; David Livingstone stands for modern missionary enterprise, Charles Spurgeon for pulpit eloquence, and Mrs. Booth for efforts to Christianise the residuum. Local philanthropy is suggested by the statues of Charles Garrett and William Clowes. The employment of those figures is an innovation which is likely to have important consequences.

There is fashion in pictures as well as in costume. When the *Venus* by Velasquez was first exhibited in public—*i.e.* in Manchester, 1857—it received little attention. At the time a picture by Velasquez was not considered to be worthy of a public gallery until it had been partially repainted by George Lance, the painter of flowers and fruit. In Spain in the seventeenth century it was almost treasonable to paint a nude figure, and it was therefore taken for granted that Velasquez, being a Court painter, would not have dared to break the law, and that the picture must have been the work of somebody else. In the little handbook to the exhibition which Dr. Waagen prepared he described the picture as "quite in the realistic style, but modelled after nature in a masterly manner; very true colour." It was a risky task for the dancing-girl to serve as a model and for the artist to represent her form. The picture is in the market, and an effort is to be made to secure it for the National Gallery. At the present day the purchase of pictures is not determined by their artistic merit alone. There is a competition between nations, and Germany especially seems to be resolved to display its wealth by offering sums which a few years ago would be considered as absurd. The *Venus* under the circumstances cannot be criticised like an ordinary painting. It is supposed now to have attained English qualities, and there will be a struggle to retain it as if it had become a guardian deity like one of the old statues of a goddess in Greece.

When the National Physical Laboratory was opened a few years ago, everyone who had any acquaintance with the planning of similar buildings must have felt that an unwise economy had dictated the arrangements. It is true the old house in Bus Park was adapted for study by the quietude of its surroundings. But for such important work as was contemplated buildings especially planned were indispensable. A memorial signed by 150 members of the House of Commons has been presented to Mr. Asquith, the newly-appointed Chancellor of the Exchequer, praying that at least 30,000*l.* should be voted towards the erection and equipment of new buildings. At present there is a temporary grant of 5,000*l.* a year, but it is considered desirable that it should be raised to 10,000*l.* It is pointed out that the institution has received for capital expenditure about one-tenth of the amount spent in Germany on the Reichsanstalt, and less than one-fifth the sum devoted in America to the establishment of their standards bureau. The Laboratory was established for standardising and verifying instruments, for testing materials and for the determination of physical "constants." Standardising work of a very high order of accuracy is now needed in the engineering and other trades, but a physical laboratory undertaking such work, at any rate on a large scale, needs very special organisation. Standardising, however, constitutes but a small portion of the work of the laboratory. Researches which may prove of the first importance to the manufacturer are undertaken, and these can only be carried out in a properly-equipped institution. While a university laboratory aims at advancing knowledge for its own sake, and as a means of educating its students, it is the business of the National Physical Laboratory to solve problems for the good of industry, to strive to cheapen methods of production, and to secure to English trade the full practical advantages which follow from the progress of knowledge. The memorialists consider it a matter of great importance that the National Physical Laboratory should be developed so as to permit of its dealing in an adequate manner with the problems which constantly present themselves to the engineer and the manufacturer.

It is not often defects in buildings can lead to improvements in the same way as will be soon exhibited in the Sculpture Gallery at Dundee. Owing to various operations the earth beneath the sleeper walls supporting the joists of the gallery had subsided, and the joists might be described as resting on air. As a result there was a vibration which caused some alarm. It would be necessary in any case to introduce supports for the floor. But Mr. Thompson, the city architect, proposed to remove sufficient earth to form a basement, and to support the floor by means of steel columns and beams. When the building was planned there was no provision for storage. When there are exhibitions loan collections are sent from South Kensington and elsewhere in large cases. In Dundee it has been necessary to warehouse them, which not only was expensive but caused inconvenience to the officials. The basement will also serve for storing books belonging to the free library which are only rarely consulted, but which it is advantageous to retain. The whole cost of the improvement will not be more than 430*l.* The building was originally designed by the late Sir Gilbert Scott.

We have already noticed the work which is published under the title of "Biographic Clinics" (London: Rebman, Ltd.), in which Dr. G. M. Gould deals with the influence of visual function, pathologic and physiologic, upon the health of patients. For all those who have to use their eyes constantly in drawing and writing, as well as in intellectual work, the pages are deserving of serious consideration. In his third volume he goes over the same ground as M. Liébrich in showing the connection between insufficient lighting of schools and unsuitable desks, not only on the forms of children, but on their eyes. He advises that the leaf of the writing-desk should have a pitch of at least 30 degs. According to Dr. Gould the Mediæval copyists used a pitch of 50 degs. or over. Twenty-seven per cent. of the pupils in the primary grades of European schools are found to suffer from lateral spinal curvature. This is ascribed by Dr. Gould to slant handwriting, for in order to produce it an awkward position has to be assumed by pupils. Dr. Gould does not appear to attach so much importance to the lighting of schoolrooms as other men who have treated of the subject. He says that children are indifferent to the direction of the light. In his third volume he refers to the sufferings of two writers on art, viz. John Addington Symonds and Henri Taine; both suffered terribly from headaches, and it is maintained by Dr. Gould that relief could be found if they had taken the advice of a skilful oculist. The book has an interest for amateurs beyond that of ordinary medical treatises.

IDEALISM IN ART.

It was a courageous act when the President of the Royal Academy made idealism the subject of a discourse to students. Not from any belief that he was likely to make converts was the subject adopted. For, as Sir Edward Poynter said, the conditions of modern life are opposed to idealism and the traditions of great work are not with us as aids to it. The tendency of the time is towards realism, and in France towards that form of it which is known as impressionism. Nor can it be said that those who profess to be advanced in representing things as they appear are in error. It is not complimentary to nature to suppose that ugly forms arise from a misuse of power, for what to women and children are the most hideous examples of animal life are found to be adaptations which are intended to meet certain conditions of utility. Then, again, the impressions which forms make on most of us are only transitory, and it should be allowable for art to produce representations which resemble those impressions. The human eye has not the power of a photographic lens, and it is only by repeated studies or long contemplation that the greater number of people are able to understand everything which is superficially presented by ordinary objects. There are some who at a single glance are unable to realise all that is presented by the surface of a common brick. They would be incapable of describing the varieties that exist in the composition and in the colours. For bricks are not quite as homogeneous in substance or as monotonous in colour as is supposed.

It should also be taken into account that the representation of mere impressions calls for a dexterity which is not easily attained. In every kind of art there are degrees of skill, and great painters have been proud of their success in recording fleeting phenomena, both in figures and in landscape. What they accomplished was no more than a superior kind of impressionism. Unfortunately men are often disposed to characterise things according to their worst qualities, and consequently the strange pictures which are hurriedly produced by partially trained artists in France are supposed to be the truest types of that class of art.

Idealism has many meanings, and it would not be incorrect for an impressionist painter to describe his efforts in seeking after a more accurate rendering of momentary effects as a search for the ideal. Everything must be supposed to depend on laws of æsthetics, and it does not necessarily mean the rules and regulations for attaining a more refined beauty like that seen in Greek statues, but the perception by the senses of much else of a different character. In that way the attempt to represent a scene in a vulgar music hall on and off the stage has a right to be considered as an æsthetical effort, for ugliness is no less taken into account by the science than beauty. Experiments to make such pictures more vivid could not, strictly speaking, be regarded as offences against the theory or science, in the general acceptation of the term. Where is the scholar who would not be grateful if a painting in the impressionist manner of the performance of Greek tragedy or comedy could be discovered in the course of modern excavations? If it were only a caricature, like the graffiti of Pompeii, it would have its importance, for it would help to reveal something of the real Greek life, which can now be only a subject for speculation. A Greek Degas would not, of course, be comparable to an Apelles or a Polygnotus, but his works would have a utility for us beyond that of the achievements of the great masters. In this world of ours, which is so strangely varied, we need something more than epics, and we can only partially understand the Greeks because we have not the people's songs, nor the humble, and it may be coarse, pictures which the majority of people admired. Read Homer, it has been said, and the Greeks will appear more than human. But it is much easier to realise what they were in reality from such homely scenes as Hesiod give us. He enables us to perceive that, after all, there was not much difference between the men of the present day and those who lived 2,700 years ago. In the Greek cities his "Works and Days" was probably looked upon as vulgar, for it seemed to be no more than the impressions made on the mind of an ordinary farmer. But for those who seek truth as well as beauty the poem will always have interest.

It may be supposed that in seeking after reality we soon come to an end. The human standard is always before us, and tests can be made by science. An anatomist, for instance, could without difficulty point out the difference between the *Diadumenos* and an average athlete. There are always men, however, who are not satisfied with anything which is so easily attained. Those who, as Sancho Panza says, are wishful for better bread than is made from wheat, resemble a class of artists who will never be satisfied with the forms of living men and women. Just as Raphael said that he intended to make his *Galatea* from a figure which was in his own mind, there will always be painters and sculptors who will prefer to create their own standards of beauty which they consider to be superior to those of other men. They will sometimes go so far as to believe that what they devise is a superior nature, or, in other words, will demonstrate what beings must have been if the original creative power had been equal to their own. This belief was expressed by Sir Edward Poynter in the words :—" The perfection of form which constitutes in its harmony of proportion and beauty of line the ideal type is no invention of man, putting parts together, but is nature itself, a true nature underlying its infinite aspects, and it is this essential form which it is the business of the artist to find." The statement is only another application of the Shakespearean theory about art and nature being one.

The ideal or result of this search necessarily has a relation to the qualities possessed by the individual artist. Owing to the preferences which each artist has for the result of his own labours, it follows that among all the figures that have been created in that way not one has been universally accepted as a standard of proportion. Nor is it ever likely that there will be sufficient agreement about any one of them. Of late years, and especially among artists who are not sculptors, there has been unusual admiration of Michel Angelo, and the President himself was among the most earnest of the votaries. But, in his address, Sir Edward Poynter stated that the great Florentine never approached the perfection of workmanship or the perfection of form of the Greek artist, and that he was excelled by the secondary work of the Greeks. These words express a fact which is common, viz. that if a work is selected as a standard for imitation or suggestiveness, it is soon superseded by something else by those who appeared to have adopted it through a conviction of its superiority.

It is an old tradition that the method the Greek artists employed for obtaining an ideal figure was the compiling of the most perfect parts of different figures, which thus exemplified what the French used to call *beauté de choix* and *beauté de réunion.* The figure of Helen by Zeuxis was supposed to be made up from no less than five Greek maidens. The President was right in saying that those who can believe in such a practice have never understood what makes Greek art superlative. The opportunities for acquaintance with the human figure were so numerous that not only painters and sculptors, but every man in Greece, was likely to be possessed of a general notion of its proportions. Hesiod considered that work in the fields could not be properly and economically gone through unless every man who took part in it was naked, and we may assume he was only expressing a belief that was generally recognised. Nudity was therefore not confined to those who took part in athletic exercises. But that knowledge is not sufficient to account for the perfection of the sculpture. There are other parts of the world where people go about unclothed, and yet the figures wrought by the carvers are far from being perfect. The Japanese, although admirable as artists, have not as yet approached Greek sculpture, although a naked man is no uncommon sight in that country.

It is almost impossible for us to comprehend the reasons which induced the Greeks to make so many attempts at what they believed to be the improvement of the human figure. If Plato had written a treatise on æsthetics we might then have an account of the motives which inspired so much labour. We have from him only occasional remarks about beauty in art, and there is no certainty that in all cases what he said expressed his own belief. We know, however, that in his time the philosophers assumed, for the purposes of explaining their theories, that there were or could be ideal or superior examples of everything men were able to see. A belief of that kind would lead to improvements in arts of all kinds. The supposition was also made almost sublime by the thought that when idealising, man was only endeavouring to remember what he saw in some elysium before he arrived on earth. Then again, the belief that deities resembled man in form allowed opportunities for discussion over the purpose of limbs and other parts of the body, and in that way suggesting a system of animal mechanics. It was supposed, for example, that the Olympians were bloodless. Hence, veins would be without much use to them, or at least need not be as large as those in men and women, as the ichor was much thinner than blood. It might then be concluded that smoothness and roundness came nearer to perfection than the developments which were seen in bodies which had to toil. There may have been much else in respect of the forms of their deities which were believed by the Greeks in their mythology, and which would authorise a departure from an exact representation of the human form. The striving after something which did not exist is exhibited in many of the statues which have survived. There is no doubt the treatment was approved by the people, especially those in towns, in whom criticism was developed to a remarkable extent.

It does not follow that a theory of form which was adopted to gratify a peculiar belief should be accepted by artists for all time as if it alone expressed what was right. Modern schoolboys who are not idealists accept the definitions of Euclid about lines without thickness and a superfices without depth as tests of imagination, but Greek boys probably thought these statements were as true as one about the whole being greater than a part. For the Greek there co-existed another world which was ruled by different laws to those which prevailed on earth. His statues were approximations to the inhabitants of it. There were primitive types which the sculptors recognised and respected, and their business was to express those deities in later forms. It was no easy task, and could not be long continued. The President had to acknowledge that after a time sculptors had figures ready made to which heads copied from nature were affixed. It was the inevitable conclusion of the practice of preferring idealities to actualities.

The progress of science has compelled men of all kinds to regard nature in a way that was unknown to the ancients. It is no doubt a less poetic and imaginative way, but it has to be accepted. When it is found that a painter cannot represent a mass of rock unless in a manner that will sacrifice a geologist; when the botanist is ready to announce his objection to the flowers or leaves that appear in a painting; and when the tailor can condemn the wrong disposition of the buttons on a coat represented in a portrait, an artist runs a serious risk if he attempts to paint after the manner of the Greeks or of the Florentines.

What we have said applies only to arts which have to draw their inspiration from natural forms. Bountiful as nature is she has not supplied any types which the architect can follow. Caves and nests serve for beings having life, but few ascetics would now care to reside in structures which in any way resemble them. Primitive dwellings may be idealised to any extent that is desirable, but for some mysterious unknown reason there has been a great restriction in the number of forms which have been created. Hereafter more liberty may be given to imagination, and the power of idealisation will be more markedly exhibited in buildings than in paintings or statues.

IRON IN BUILDINGS.

It was to be expected that the fall of a part of the roof of the Charing Cross terminus should excite some alarm about the risks of using iron in buildings. It is premature to draw any conclusions from that catastrophe until it has been ascertained by scientific evidence that the weakness of the iron was the primary cause of the fall. There were other elements of danger in the terminus. The earth on which the building was erected was practically a river bank, which is generally recognised as wanting the coherence and stability which are desirable in foundations. It would not be surprising if the walls deviated from the perpendicular. If from any external cause a tie-rod was strained beyond the limits of strength possessed by the material, then we cannot condemn the weakness of the metal. It is well to distinguish between the design and the material. No doubt the rod was exposed to atmospheric influences, and was not as regularly painted as is desirable. But it has not as yet been ascertained how far the rod was reduced from its original thickness; indeed it has yet to be determined whether there was any reduction. There is no advantage in concealing the weakness of any material used in construction. But up to the present it is rather unwarranted to conclude that the danger was caused by any defect in the material of which the roof was constructed.

The resolution of the directors to remove the remainder of the Charing Cross roof and to substitute another of a later type does not affect the general principle of the safety of steel as a constructive material. The reasons for such a course have not been mentioned. From the fact that the new roof will also be steel it is evident there is no doubt about the material, for which, indeed, no substitute of equal strength is to be found.

It should be remembered that many architects are prejudiced against the use of iron or steel in a constructive form. They are willing to employ it in hinges, balconies and other ornamental forms, but not as beams or columns, being indifferent to the advantages afforded by its strength, by which it surpasses all other building materials. There are no ancient precedents to warrant its adoption instead of stone or wood, and when its use is imperative there must be more or less of a departure from the structures which have been accepted as models. Sir Gilbert Scott was not, we suppose, altogether satisfied because in his Albert Memorial he had to introduce beams and columns of metal. A great many purists condemned the structure on that account. He could not dispense with iron unless he produced a different class of memorial, and necessity is no less peremptory in other cases. The surviving examples of Gothic and Renaissance architecture do not comprise any buildings resembling the shops and commercial buildings which are to be found in every large town in Europe. Nor in the old days was it possible to have such immense areas in warehouses as are common in our time. It is unnecessary to refer to the latest variety of buildings which are being raised in American cities, and which must possess advantages, otherwise there would not be so general a demand for them.

The outcry against the use of iron was heard at an earlier time. Smeaton employed cast-iron in 1775, and he tells us that "the cry then was, that if the strongest timbers are not able for any great length of time to resist the action of the powers, what must happen from the brittleness of cast-iron? It is sufficient to say that those very pieces of cast-iron are still at work, but that the good effect has in the North of England, where first applied, drawn them into common use, and I never heard of one failing." At that period the art of casting in iron was not perfect, but there still remain examples of cast-iron produced at the end of the eighteenth century and the early part of the nineteenth which continue to be in a sound condition, and apparently unaffected by rust. The rudeness of the process was, it must be owned, not entirely disadvantageous. As a rule it might be said that no part of any cast-iron beam was less than an inch in thickness, and that allowed for a great deal of wear and tear. The beams were so strong there was no hesitation in exposing them to the weather, and painting at regular intervals was not always observed.

In the majority of cases where wrought-iron or steel is used in buildings the material is covered. When Gothic principles prevailed, and it was supposed to be necessary to display construction, the concealment of plate beams when used as lintels used to be condemned by some sticklers for architectural veracity. But very few examples of buildings in which "true principles" were accepted as regards iron could be seen. It is an undoubted advantage to have wrought and rolled iron and steel guarded in order that they may not be subjected to atmospheric influences. To diminish the risk of rusting it is also desirable to have the iron painted or covered with asphalte or oxide of iron. In New York the following building regulations are obligatory:—"All structural metalwork shall be cleaned of all scale, dirt and rust, and be thoroughly coated with one coat of paint. Cast-iron columns shall not be painted until after inspection by the Department of Buildings. Where surfaces in rivetted work come in contact they shall be painted before assembling. After erection all work shall be painted at least one additional coat. All iron or steel used under water shall be enclosed with concrete." In that way the loss of material by rusting is diminished to a quantity that is negligible.

But on the question of rust there is a remarkable tendency to exaggeration. Several years ago an Irish architect stated at a meeting of the Institute that tons of rust had to be removed every week from the roadway of the Britannia Bridge. Only a few days ago it was stated in one of the newspapers, *à propos* of the Charing Cross accident and the danger of iron, that every passenger who crosses the Britannia Bridge risks his life owing to the weakness of the structure through oxidation. Alarmists are easily created, and it might be concluded from the imaginative letters which now appear that it is unsafe to travel on a railway where there are girder bridges. If foreigners should read such statements they must be amused at the ignorance and liability to panic of the British public. Oxidation is due to atmospheric conditions, and can be easily avoided by a variety of coatings besides paint—such as asphalte or pitch. Anything which will prevent the surface of the iron from contact with the air is sufficient to serve as a preservative.

It is, however, a misfortune that in constructional ironwork economy prevails to an extent which is unknown in dealing with other materials. It has happened before now as a consequence that girders have been made and delivered from which all the cover-plates were omitted. It is not unusual to find beams with web-plates hardly more than $\frac{1}{4}$-inch or $\frac{3}{8}$-inch thickness. The strength is calculated to a nicety, but there should also be allowance for such a contingency as oxidation and for the effects of occasional over-straining. Anyone who will contrast the surplusage in ironwork, as compared with masonry or timberwork, will be surprised at the difference. Building regulations prescribe dimensions for walls. But for ironwork the protection against fire is supposed to be the main consideration. No doubt one reason for the indifference is that steel joists and girders are capable of resisting very high strains. But their tensile strength should not be the only quality

The east Prospect of the Rialto Bridge.
It is Built of White Marble, the Arch is 95 feet long and 24 feet high.

which is considered. If it is taken for granted that girders in building are liable to rust or other dangers, then the conclusion should be to allow of dimensions ample enough to resist any abstraction of material which might occur. It must be admitted that an accident with a girder is very rare in buildings, and there is little ground for the excitement which now appears to prevail in some quarters.

CANALETTO'S VIEWS OF VENICE.—XXI.

THERE is still some open ground near the Ponte di Rialto on both sides of the Grand Canal of Venice. In Canaletto's time it was likely to be more extensive, and justified him in having a view of a favourite scene as if it were a "campo." Near the bridge are the Bank of Italy, which was formerly the residence of the last of the doges, Daniel Manin, the Palazzo Bembo, the offices of the Municipality, &c.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute was held on Monday evening last at Conduit Street, Mr. John Belcher, A.R.A., president, in the chair.

Mr. Alexander Graham, hon. secretary, said it was with regret that he announced the decease of Hyman Henry Collins, district surveyor for the eastern division of the City of London. Mr. Collins was elected an Associate in 1859 and Fellow in 1877. There were very few architects, said the speaker, who were not acquainted with the deceased, especially in his capacity as district surveyor. For many years he took an active part in the work of the Institute and he had always been an ardent supporter of its best interests. In conclusion, the speaker moved a vote of condolence expressing sympathy with the relatives of their deceased colleague.

Stained Glass.

Mr. Alexander Gascoyne, in a short paper referring to examples that remain of old stained-glass work, said that, without attempting to copy deliberately many lessons may be learnt from it. If once we can catch the spirit and feeling that inspired the early glaziers and work it into modern requirements we shall be progressing towards perfect work. No better model could be desired than the beautiful arrangement of the best fifteenth-century glass, *e.g.* York Minster and Morley Church in Derbyshire. The windows in the north of the nave of Cologne Cathedral also afford excellent examples. Whether or not glass can be manufactured equal to the old glass is a matter of opinion; but by waiting and picking out the choicest sheets at the maker's, and carefully selecting these, results can be obtained which will compare favourably with the early windows. It is the inequalities, variations of thickness and colours and accidental markings which give the depth and brilliancy to the glass, and upon their judicious employment depends the success of the work. In good work the cost of the glass rarely, if ever, enters into the consideration of the glazier; he chooses the various glass as the artist does his colours. Beautiful results can be obtained by giving a free rendering of the early principles, and by designing foliage or ornament to take the place of canopies and bases, without losing the feeling or character of the old glass. It is immaterial what particular style is adopted provided we allow our originality to develop that style, and produce stained glass which for charm of design and colour will adapt itself to the character of the building. The assistance architects can give in suggestions for the general schemes of windows cannot be over-estimated: their co-operation has produced in many instances most successful results. When the profession as a whole demand really good work, and encourage designers who are known to have the interests of their craft at heart, there will be no lack of beautiful work. But so long as the greatest demand is for the cheapest article, it cannot be expected that the domestic or ecclesiastical stained glass of this country can improve. A stained-glass window need not necessarily be expensive. It can be made simple in design, and therefore not costly; but it does not follow that it is not in the best possible taste, and that the best material has not been used. The author impressed upon those designing stained glass for churches that the windows have a double mission—they should form a beautiful decoration and be devotional in feeling. The figures introduced should be an aid, not a hindrance, to devotion. Arouse the critical faculty, and no devotion is possible. To design some windows much careful consideration is necessary; really good work can hardly be done unless the artist is personally in sympathy with the object of the design. The author cited various errors in the treatment of windows due to the unsympathetic artist. The designing of a church window should be a work of love, and the artist will not be satisfied unless the symbolism truly interprets the teaching. Stained glass for modern dwellings should be designed to form part of the decorative scheme; the building itself should be seen before preparing designs. Rich colour schemes should be used with the greatest care. Simple treatment in white glass has been used by some architects with most satisfactory results, harmonising admirably with any style of decoration. The importance of massing the design in domestic ornamented glass cannot be over-estimated. Referring to the full-size detail drawing prepared to give the architect an idea as to the general effect of the leads, the author pointed out that this was not a working drawing; a line drawing of the various shapes of the glass had to be prepared to guide the cutter in cutting the glass and the glazier in piecing it together; unless every care was taken with this drawing all the architect's trouble might be lost.

Mr. A. J. Dix, who contributed the second paper, after explaining the difference between stained and painted glass, and defining the term "stained glass," said what he proposed to deal with was the making of what is generally understood by a stained-glass window, *i.e.* the using of the material in such a way that shall interest and charm by a variety of design and combinations of colour in which it may be employed. A design for a stained-glass window may be in any medium, and upon whatever material that most commends itself to the artist; even painted on glass in transparent colours, or of small pieces of the actual coloured glass itself put together like a mosaic. Nor is it even necessary that a design should be made at all. The cartoon may be drawn in the first instance, and a colour scheme for guidance in choosing the glass may be a coloured photograph of the cartoon, or a sketch to scale of the lead-work coloured in, perfecting the scheme already in the mind and suggested by a possible rough sketch made before starting the cartoon. In the author's opinion the highly finished competitive design for a stained-glass window is a mistake, a delusion, a snare. An attractive design is by no means a guarantee of a good window. The capabilities of a maker of stained glass should be judged by his finished work and not by design. One very important point to observe is the architectural fitness of the design, *i.e.* its suitability as regards proportion, not only as a whole, but in detail. It should always be treated in such a way that will keep the window subservient to the architecture, about which there need be no fear if a strict adherence be observed to the natural limitation of the material. The position and size of window should be thoroughly considered, as much detail is often thrown away and a broadness of effect missed by over-elaborating a window which is only seen from a distance; also the amount of light one may safely exclude without over-darkening the interior of the building should be considered. Having referred to the cartoon and skeleton drawing, the author went on to speak of the selection of the glass—perhaps the most interesting and absorbing stage in the work—and described the various colours or tones giving the most satisfactory results, and the method of their employment and arrangement. The practice of superimposing pieces of glass held together in one lead, in two or even three layers, called plating, though occasionally a useful expedient, the author considered should not be resorted to until every resource had been exhausted to obtain the required colour or tone. As regards the best tint of white glass, one could not go wrong in choosing a tint so often found in early glass, *i.e.* a cool greenish hue. Describing the method of preparing and arranging the glass before painting, the author emphasised the importance of viewing the glass so prepared in a position against the light, as it will be in the window when finished. Now is the time to make any alteration desired. If the corrections are not made now before the work is painted, any offending pieces will be more reluctantly discarded at a later period. The whole making of a stained-glass window should be one of elimination, adding to, and correction, not only in the initial stage of the glass in its raw state, but as the work proceeds, altering the work to obtain the effect aimed at as it progresses. In the process of painting, and, in fact, at no period should anything be taken for granted; the work should be viewed in a perpendicular position, and from as great a distance in the studio as possible, and no advance made until at each and every stage nothing suggests itself that could possibly be improved upon. The author went on to describe the process of painting the glass, the pigments employed, the firing, leading, &c.; and, in conclusion, he referred those who wished to make a study of stained glass to the works of Winston, Mr. Westlake's "History of Design in Painted Glass," Mr. Lewis F. Day's "Windows," and Mr. Whall's book in the "Artistic Craft Series."

Mr. J. D. Crace, proposing a vote of thanks to the authors of the two papers, said there were so many points in both the contributions that it would be impossible in a few words to discuss them. Mr. Dix had done valuable service in bringing before them the action that atmosphere and rain had upon old glass. It was hard to realise the effect of corrosion and the wonderful change thereby in the toning and harmonising of colours. He agreed with Mr. Dix that no amount of weather would make a bad window a good one, but there was no doubt that in the course of years the effect of time produced a kindly tempering of bad work. The speaker said he had hoped that one of the papers would have dealt with the gradation of colour and the variation of tone. A great deal of the jewel effect in glass was the result of carefully diminishing the amount of power in the colour both in the one mass and in those which surrounded and contrasted it. The art of putting colour together in glass was a special one, for in that respect one had to deal with a more intense scheme of colour than in any other branch of art. The painter toned his colour as the work progressed, and he could not produce the brilliancy of modern glass. The greater beauty, however, that was the outcome of brilliancy was a standing danger to the man who had not made himself acquainted with the peculiarities of glass. It was a good rule to have the glass, when selected, placed on a screen, and to judge the depth and tone of the colours. It was necessary for the artist engaged on the work, and it was most advantageous to anyone who was concerned in the responsibility of the production of a good window. Such a precaution enabled, in the first instance, small slips of judgment to be corrected, and it undoubtedly obliged the artist to criticise his work, enabling him to make eliminations on a broader scale than would be possible afterwards. Very few artists could finish corrections to a window after it was leaded up without changing portions of the glass. The speaker said he would recommend all artists to look over their window before it was finally cemented or soldered, because a last inspection at a late stage in the work very often saved a great deal of trouble and vexation after the window was in position. He was glad to hear an allusion made to the Florence windows, because he did not think architects or glass-stainers had given enough value to the lessons to be learnt from the examples of glass in Italy. The glass at Florence and Siena produced by Ghiberti, as well as by Ghirlandaio, merited high praise, and he could say to any young architect going to Italy for purposes of study that any time spent in the examination of their work in windows would be devoted to the study of the best glass.

Mr. G. H. Fellowes Prynne, in seconding the motion, said many churches had been wrecked by restoration, but to his mind more had been ruined by the introduction of bad glass. He agreed with Mr. Dix when he said that if the artist in stained glass would really work with the architect he was sure the effect of the work would be far better. It was the want of touch between the two that so often marred the merits of a window. Mr. Dix had also mentioned that the artist should make the most of his scheme when there was an opportunity for putting in elaborate colours. There was, however, a risk in the elaboration, because if the artist asserted the single opportunity the effect of other windows in the building might be spoiled. A church or a building that was to be completed with coloured glass must be considered entirely as a whole, and where there was a brilliant light from an east window the unsuitability of clear glass had to be provided against. Glass for a background must be in tone to a very great degree. Green had been often exaggerated, but the speaker said he was not sure that it had not been an exaggeration in the right way. Pure white presented difficulties in treatment, though it could often be introduced with warm yellow and green. Referring to the preparation of cartoons, Mr. Prynne said they were apt to be misled by the lines of the supporting bars. The lines became really a very important detail in the design of a cartoon, and they had to be considered as necessary supporting fixtures for the glass. Huy, a small place in Belgium, possessed some beautiful examples of mullioned windows, the colours of which were magnificent. He fully agreed with the first paper, that the designer of windows must be a man who fully entered into the symbolic feeling of his work, and unless the artist possessed that devotional regard for his craft there was no truth in his endeavours. Architects found very often that, when they had to deal with an artist, he laid down a sort of definite rule that single figures only should be drawn between single lines. This kind of limitation could be carried too far, since full expression to the design might be hampered by such a rule. In glass windows there should be a certain amount of lesson to learn, either historical, devotional or otherwise, and it was nice to have depicted below the figures represented some event that would add a point of interest to the whole composition.

Mr. Geo. Hubbard said the thought had come to him sometimes that if more white glass was introduced into windows, there would be a better chance of comparing and judging the changes of the colouring. Old glass appeared to be a medley of colour, and he did not think it was possible to compare the richness of the colour. All colours could be compared with white, but unless there was a sufficiency it was impossible to get a true appreciation of the effect of the colours. He had had an opportunity of examining the glass of Chartres Cathedral, and he found when looking from the roof that the windows had been washed over with what appeared to be a fine cement. He attributed the great richness of the colouring of the windows to that protection, and he desired to know if the cement was put on with a view to preserving the colour.

Mr. Harrison Townsend asked what was the objection to using a double thickness of glass, and why it was considered wrong?

Mr. E. W. Hudson supported the vote of thanks, and referred to the poor quality in some of the figure drawing in the windows at St. Denis. He mentioned also that in the preparation of cartoons the position and size of the window and the height at which it would be placed had to be fully considered if the drawing and colouring was to be successful.

The President said he agreed with Mr. Gascoyne when he pointed out that in church windows there should be a strong devotional feeling running through their composition. By that he meant also there should be no disturbing element. If any part of such work suggested a problem to be solved, the design was unsuitable. In church windows the mind should find quiet and a soothing influence. Another important matter mentioned in the first paper concerned the subjection of the window to the building in which it was placed. It was, said the speaker, necessary—and he spoke from experience—for the artist to see the building before he began the design. Unless the aspect of the building and the height the window would be from the ground received attention, it was impossible to design a window that would be suitable to the architectural work. The President then quoted an incident that once happened when stained-glass windows were to be introduced in the staircase of a building of which he was the architect. The staircase was abundantly lighted from a skylight, and the windows in question were about 10 feet from any other building, so that there was no direct light upon them. The work was put up for competition, and eminent artists were requested to send in designs. It so happened that the committee who managed the competition were attracted by the deepest and most freely coloured drawing and full of elaborate detail. But the artist had made the design without having seen the building and without having taken any particulars even of the size of the openings. The result was that when the window was sent down completed it was found to be at least 15 inches too short, and the alteration of the work spoiled its artistic fitness. In conclusion, he said he wished to raise one point. The papers had not gone into the history of stained glass, but it was hinted that the fifteenth-century work was that which they should endeavour to copy. Unless he had mistaken Mr. Gascoyne he disagreed with him. He felt very strongly that they should endeavour, if possible, to design their work in the style of the twentieth century, and that they should avoid, as far as possible, the mere imitation of old work. If they could develop the beauty of stained glass by all means let them adopt every method and expedient that came to hand, but they should still endeavour to make the work suitable for the position it had to occupy.

Mr. Gascoyne, in reply, said he did not think cement had been put on the outside of the windows at Chartres. The effect was produced by corrosion alone.

Mr. Dix also replied, and the meeting terminated.

LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY.

A PAPER was read at the rooms of the Leeds and Yorkshire Architectural Society by Mr. H. W. Wells on "The Architectural Planning of Public Buildings." The lecturer said the object of his paper was one of the first importance to architects and one which was too often lost sight of amidst the hurry of modern life. He referred to many early examples of planning as an aid to the student, notably, the basilicas, baths, theatres, amphitheatres and palaces in Rome. Referring to Sta Sophia, the effect, he said, had been described as being one of great intricacy and of continuous gradations of parts leading up from the small arcades to the stupendous dome, which hung with little apparent support over the centre, as Procopius, who witnessed its erection, described it as if suspended by a chain from heaven. Turning to the Renaissance, it was unfortunate that two of the greatest works, the churches of St. Peter's and St. Paul's, should both have been crippled by outside influence, so that in each case the result had been a Mediæval plan in Renaissance dress. The lecturer, speaking of Wren's smaller churches, more especially of St. Stephen's, Walbrook, said it was by these that his ability as a planner could be chiefly judged. In regard to modern planning, it was naturally impossible to use the courtyard principle to anything like the same extent to which it was employed in Italy, both on the score of cost and for climatic considerations, but there were some buildings, such as a large town hall and a group of municipal buildings, which could be well arranged on these lines. The lecturer referred to the planning of libraries, and said that a very great advance had been made, and some of the recent American designs were specially noteworthy in this respect.

SHEFFIELD SOCIETY OF ARCHITECTS.

A LECTURE was delivered on the 14th inst. at a meeting of the Sheffield Society of Architects and Surveyors by Mr. S. E. Feddon, general manager of the Sheffield Corporation Electric Supply Department, on uses of electricity. Mr. Edward Holmes, president of the Society, was in the chair, and there was a large attendance of members.

Mr. Feddon remarked that it was only during recent years that much attention had been given to artificial illumination, and particularly in the case of dwellings in which lamps and candles were once used. This means of lighting only gave way slowly before the progress of illumination by gas and electric lighting. For interior lighting, excepting in the case of large halls, they were still restricted to some form of incandescent lamp. The latter, which was bought for a trifling sum and in time cast aside with as little sentiment as was given to an empty bottle, was the result of many years of patient labour on the part of inventors and manufacturers. Fortunes had been sunk in developing it. Whether fortunes were now being made out of it he could not say, but judging from the keen competition he should doubt it. Over 50,000,000 electric incandescent lamps were used in the United Kingdom in a year, the majority being home made. One of the greatest difficulties electrical engineers had was in educating consumers to appreciate the advantage of good lamps over second-rate or bad ones. There was considerable net saving in the account for energy when the better lamps were used. In regard to illumination, he was afraid that frequently in the arrangement of electric fittings in houses and shops there was an utter disregard of fitness, and a complete ignorance of the first principles of illumination. There was room for specialists in this class of work, men who were able to suit the lighting, the wiring and the choice of fittings to the decoration and general arrangement of a building. Moreover, lights should be hung so as to be easily avoided by the eye. Again, too little attention had been given to the question of arranging lights with a view to economy. Of all the people engaged in competing with electric light, the vendors of gas and gas appliances had made most extravagant statements to support their claims. The comparisons made varied greatly, but stood for the most part self-condemned by their absurdity. Occasionally definite cases were cited where a saving had been effected by the substitution of some of the most recent forms of gas lighting, but it was generally found that the customer had contented himself with less light. In electric lighting great economies could be effected, and if these economies were adopted electric-light accounts would go down. Moreover, there were other advantages. It was said that by introducing electric light Mr. William Whiteley, of London, saved 5,000*l.* per year on painting and whitewashing. There was also the question of health. In Sheffield in nearly every case where electric light had been installed in a church or chapel, there had been a saving as compared with gas. After dealing with meters, schemes for wiring buildings, the use of arc lamps, apparatus for electrical cooking, heating and ventilating, he turned to the subject of electric power, and contended that the day was past when it was necessary to demonstrate that electricity was equal to any other motive-power. It could compete successfully with any other form of power, whilst it was obviously superior in cleanliness, silence, safety, regularity and simplicity. It was frequently said that electricity was still in its infancy. Mr. Edmund L. Hill, speaking of this prodigious infant, recently said :—"Jones will wake up in the morning, called by an electric alarm, will shave by electric light, with electrically heated water; will breakfast off an electrically-cooked omelette, using an electro-plated fork; light a cigar electrically, ring an electric bell for his electrically-cleaned boots; will telephone to his office, go to business in an electric car, and while reading an electrically-printed newspaper, the contents of which have been sent by electricity all over the world, will tell Brown that electricity is still in its infancy."

The lecture was illustrated by lantern slides, and its interest was increased by specimens of heating, cooking and ventilating apparatus, and lamps used in lighting.

At the conclusion of the lecture a vote of thanks was accorded, on the proposal of Mr. E. Holmes, seconded by Councillor Fenton.

The President announced that in the recent intermediate examination of the R.I.B.A., Mr. J. R. Truelove, a student member of the Society, had been placed first by the examiners.

T-SQUARE CLUB.

THE first general meeting of the T-Square Club was held in the International Hall, Monico Restaurant, on Thursday, the 14th inst. The chair was taken by Mr. C. W. Stephenson. It was proposed by Mr. T. W. Aldwinckle and seconded by Mr. W. H. Webber, "That the T-Square Club as at present constituted be wound up." This resolution was carried unanimously. Mr. A. G. Pomeroy proposed and Mr. F. D. Clapham seconded and it was carried, "That the funds at present in the hands of Mr. F. C. Simpson, the hon. treasurer of the late T-Square Club, be paid over to Mr. W. H. Webber to defray the expenses incurred by the suspense committee, and that the balance of same be carried to the credit of the new T-Square Club." Mr. T. W. Aldwinckle proposed and Mr. W. J. H. Leverton seconded, "That a new club be formed to be called 'The T-Square Club,' and that all members of the same shall be members of the architectural or other recognised professions, and shall be solely engaged in professional practice."

It was proposed by Mr. W. J. H. Leverton and seconded by Mr. F. D. Clapham, "That the subscription be the same as that of the late T-Square Club, viz. one guinea per annum, but that a half-session of the club be formed immediately after Christmas with a subscription of half a guinea," which was carried unanimously.

Mr. A. G. Pomeroy proposed and Mr. W. J. H. Leverton seconded a vote of thanks to Mr. W. H. Webber.

The suspense committee, consisting of Mr. T. Wilson Aldwinckle, Mr. Arthur G. Pomeroy, Mr. W. J. H. Leverton and Mr. W. H. Webber, were unanimously elected as the executive committee, with power to form a full committee and any sub-committees. Mr. W. H. Webber, 7 Great James Street, Bedford Row, W.C., was elected hon. secretary. Mr. T. Wilson Aldwinckle, 20 Denman Street, London Bridge, S.E., was elected hon. treasurer.

Mr. F. D. Clapham proposed and Mr. W. J. H. Leverton seconded a vote of thanks to the chairman, which concluded the proceedings.

NOTES AND COMMENTS.

Many French architects believe that Charles Garnier's Opera House in Paris is the most successful building of its kind in the world. Bayreuth may be more in keeping with the ideas of composers and of amateurs. But the Paris Opera House was intended to be not only a theatre, but a memorial of Imperialism. It is remarkable that, at the present time, an important alteration is under the consideration of the Minister of Fine Arts. The building costs the State a large sum of money every year, and as French finances are not in a satisfactory condition, the question arose whether the expenses on the Opera House could not be reduced. The subject was entrusted to M. Maret, and among the recommendations in his report is one for decreasing the area of the orchestra. Generally the area devoted to that purpose is bounded on one side by the stage, and on the other by a barrier running parallel to it. But in the Opera House the outer line is not continuous, for the middle part projects further than the sides into the body of the house, so as to form more than a semicircle. The conductor has not always the musicians in front of him, for he sometimes appears to be in the middle of a crowd. M. Maret says he does not believe that Charles Garnier adopted that form in his original plans, and there is nothing corresponding to it in any of the theatres in Europe. M. Maret considers that by restricting the space sixty additional fauteuils could be obtained, and as the price for them would be at least 16 francs, the increased income from them would be 112,800 francs a year. There are leaseholders in the Opera whose rights must be respected. But it is believed that at least 100,000 francs, or 4,000*l.* a year, would be saved. It is also proposed to have a trellis curtain, like one at Bayreuth, which could be used in Wagnerian operas and which would help to conceal the musicians. M. Maret desires that the opinions of experts should be taken before his advice is acted on.

ILLUSTRATIONS.

CATHEDRAL SERIES.—WAKEFIELD: GENERAL INTERIOR, LOOKING EAST.

THE view of the nave shows a difference in the number of bays dividing it from the north and south aisles. The original church was without aisles, and when in the middle of the twelfth century an enlargement became essential, the north side was selected because it would not be necessary to interfere with any of the graves. As will be observed, the aisle had seven bays, most of the piers being round. When the congregation increased, another addition was called for, and the southern aisle was erected, although in doing so the graveyard had to be encroached upon. Narrower bays were adopted, and some piers are round while others are octagonal. On the north there are seven bays and on the south eight. It may have been considered desirable to have a larger number of points of support on the part of the site which was formerly used for burials.

KINGSWAY HOUSE, DOVERCOURT.

THIS house has been recently erected in a new thoroughfare leading direct from the station to the sea, and opens up a more direct route than was hitherto available in this popular seaside resort. The house is built in Flitton bricks, cement rendered and finished in white rough-cast plaster, the roof being covered with dark brown Broseley tiles and the woodwork painted green. The whole of the works, including mantels, internal decorations and fittings, was carried out by Mr. Edward Saunders, Hill Crest Works, Dovercourt, and the gas-fitting by Mr. J. Saunders, of High Street, Dovercourt, from the designs of Mr. H. Steward Watling, F.S.A., of Dovercourt and Ipswich.

THE NEW ADDITIONAL PREMISES, BON MARCHÉ, BRIXTON, S.W.

THESE somewhat extensive business premises are being erected in Ferndale Road, Brixton, S.W., for the chairman and directors of the Bon Marché, Ltd., from designs by Mr. J. Wallis Chapman, architect, 130 Inverness Terrace, London, W. The materials used are red brick facings with Bath stone and artificial stone dressings, together with Cornish and royal blue Labradorite granite. The basement, which is connected by subway to the old premises, is very light and commodious, and contains departments for ironmongery, blinds, linoleums, carpet-planning and upholstery. The ground floor is for carpets and furnishing draperies. The shop front contains spacious windows with a superficial area of upwards of 25,000 feet of glass—polished plate—and is made of polished walnut with gilding metal and "Kupron" ornament, royal blue Labradorite stall-plates, glass fascia, Cornish granite cornice, with Doulton faïence balustrade and capping to same. Excellent light is obtained to this floor by lean-to roof on north side covered with patent glazing, with ceiling lights formed with Luxfer prisms. Above the granite cornice the first-floor facings are Tucker & Son's Leicester red pressed bricks, relieved with Bath stone dressings, and the second floor as well as the whole of the third floor and workshops in rear are faced with red Suffolk bricks.

The whole of the building is built up from grillage bases below basement floor, and is carried on stanchions with main and intermediate beams of mild steel, which are encased in concrete, the floors being of a fireproof nature throughout.

The ceilings, beams and girders throughout are covered with ornamental fibrous plaster and form panels between stanchions, &c., executed by Messrs. Gaze & Co., Marylebone. The first floor, which is for the cabinet department, has a teak polished wood-block floor, fittings to doors, &c., and enclosure to iron doors of polished and carved walnut, sashes of ornamental design made of steel supplied by Messrs. Crittall.

The building is divided on each floor by party walls, and openings in same to comply with regulations, and covered with iron doors on each side; these fold back against wall during day and are screened by carved and polished walnut fittings.

The main staircase, which is divided from main building by iron doors, is composed of *in situ* concrete, rolled steel joists and expanded metal lathing covered with teak treads polished, and with walnut handrail with ornamental wrought-iron balustrade. The well-hole of stairs is fitted with a passenger lift for the convenience of customers, and a goods lift is also provided for delivery, &c., of goods to each floor. The car of passenger lift is composed of ornamental wrought-iron and polished walnut, and seats covered in Russian leather. Both lifts are driven by electric motors supplied by current from the Bon Marché, Ltd., own generating station.

The tower is a commanding feature of steelwork and artificial stone; roof covered with copper dome and about 105 feet from roadway. The roof of main building is of asphalte and the wall plastering is of sirapite. The forecourt paving is of terrazzo of neat design. The workshops in rear are connected with main building by bridges of fireproof nature.

The builders are Messrs. J. W. Falkener & Sons, Ossory Road, Old Kent Road, and Mr. G. W. Ramplin is clerk of works.

COURTBRAC, GARDEN CITY, LETCHWORTH, HERTS.

THIS house is a fair example of Garden City architecture (outside the cheap cottages). It is the largest detached house on the estate. The architect is Mr. W. B. Stonebridge. The builder was Mr. C. Sinfield, of Aspley Guise. The staircase screen is of American oak beeswaxed.

HORSELL DENE, SURREY.

BRIARHURST, SURBITON.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last at the premises in Tufton Street, Westminster, Mr. E. Guy Dawber, president, in the chair.

The following gentlemen were elected as members:—Messrs. H. E. C. Claydon, R. N. Hewitt, G. T. Jell, F. J. Daniel, Samuel Davies, W. G. Wales and Sir F. C. Rupert Ford, Bart. Mr. R. Hebert was reinstated a member.

Mr. W. H. Bidlake read the following paper, illustrated by lantern views, entitled:—

Church Towers and Spires.

In a survey of the development and design of English Mediæval towers and spires, the prospect which stretches away before the mind's eye from Tudor to Saxon England is so extensive, and it may be viewed from so many standpoints, that it would be impossible in an hour's paper to do more than refer broadly, in some cases even superficially, to the more salient features which arrest the attention in such a survey. Moreover, the subject is so attractive, and is capable of being attractively illustrated, that many have taken in hand to set forth in order its principal features, and I shall not attempt to adduce any new facts or invent any new theories. It is difficult, indeed, unless one is content with minor examples, to find any illustrations which have not already been given in that excellent series of drawings in "Wicke's Towers and Spires," which, since its publication in 1855, has been regarded as the standard work on the subject. And it is a subject which is so dependent on illustration that I shall rely on the lantern photographs rather than on any words of description.

I will first illustrate the historical evolution of the tower and spire, and its employment in connection with the rest of the building, and then consider some special points relative to tower and spire design. The typical position for the tower in an English church is the centre of the west end, making, with the western terminations of the north and south aisles, a symmetrical façade. Usually it stands free on its three sides, but occasionally the aisles are brought up to its western face, as at Grantham. If the tower in this position forms the western termination of the nave, it contains on its west face, the central doorway and the west window. The whole composition is evidently intended to impress the worshipper as he approaches it from the front. It is the frontispiece, behind which the church lies more or less hidden.

This is still more the case with the typical cathedral front, where two towers flank the central doorway, and the composition is still less suggestive of the sectional outline of the nave and aisles behind, especially when, as in so many French examples, the central gable is masked by a horizontal arcade. It is not unlike, in its intention and conception, the façade of an ancient Egyptian temple, which masks the building behind, and in which the pylons flanking the central doorway may be compared to the western towers of the Gothic cathedral. Occasionally, indeed, a still more magnificent façade is presented, either by extending the screen beyond the towers to flanking north and south turrets, as at Lincoln, or placing the towers themselves outside the aisles, and decorating the extended front with splendid sculpture, as at Wells, or, grander still, the arcaded caverns of Peterborough. At Exeter twin Norman towers form the transepts, while Ely is the only example of a cathedral with a western tower on the central axis, a position so common in the parish church. Some of our cathedrals have no western towers now remaining, as Winchester; and poor, indeed, do their fronts appear in comparison with those we have been considering.

The dome of the Byzantine and the lantern of Spain and the South of France becomes, in Normandy, the central tower, and no Norman or Anglo-Norman cathedral was complete without it. In France the loftiness of the high vault compelled her architects to substitute for the central tower the elegant, but far less imposing, timber flèche; and if, after contemplating the wonderful loftiness and airiness of her cathedrals we return dissatisfied with the low proportions of our own, let us find our consolation in the fact that this very lack of internal height has secured for us the retention of the central tower.

The typical Norman cathedral then had both central and western towers, as at Southwell, and it is only when all three are present that the English cathedral realises its full majesty and becomes, in fact, one of the grandest works of man. It is possible that each tower was intended—after the Norman period—to carry its spire. Not a few had timber and lead spires at one time, which have since been taken down. Lincoln once had small timber spires on the western towers, as shown on old prints, and a spire no less than 523 feet high on the central tower. It is possible, too, that Peterborough was intended to carry spires on all its five towers, but Lichfield alone of all the cathedrals retains her triple spires, and these endow her with such grace that she becomes one of the most beautiful and distinctive in the country.

In the smaller Anglo-Norman churches a central tower, or, rather, one which occupies an analogous position on the central axis at the eastern part of the nave, is not uncommon, as at Iffley. Occasionally a western tower also exists, and this tandem disposition recalls the twin towers so common in Auvergne, as at Issoire and Brioude and in other parts of Central France, although it is improbable that there is any historical connection between the two types. Ely, however, is the only English cathedral with this arrangement.

Of the Saxon towers still remaining many of them are in the centre of the west end, as at Earls Barton, and it seems not improbable that the western position of the tower in subsequent styles was due to a continuation of this essentially English arrangement, a supposition rendered the more probable by the rarity of central-western towers in Normandy.

If we pursue the subject backwards and ask what was the origin of these Saxon towers, we are led to the larger subject of the origin of the Romanesque tower, and to a consideration of those at Tours, Ravenna, Milan and Central Syria. But this would lead us astray from our present subject.

Although the central-western position of the tower is the typical one for the parish church, it is occasionally found on one side, as at St. Mary Redcliffe, Bristol, or All Saints, Stamford. At Wisbech the tower is almost detached from the church, and in the surrounding district may be found several instances in which it is wholly so. The magnificent tower of West Walton, some few miles away, forms, in fact, the lychgate of the churchyard.

Detached towers are also a local peculiarity of Herefordshire.

While in an overwhelming majority the tower plan is square, the octagon is occasionally found, as at Stanwick; and in Norfolk and Ireland the round tower is frequent, in the former due to the use of flint and the difficulty of building quoins in that material.

Both Saxon and Norman towers must have been roofed with wood, and a simple squat pyramid, like those which the late Mr. Christian reconstructed on the Norman west towers of Southwell, must have been very frequent, because their construction would be the simplest and most direct, or the pyramid may have been set diagonally, as at Sompting. But timber spires must also have existed, for they are represented in old manuscripts. Their form, in all probability, resembled the ancient timber spires still existing at East Meopham and Newhaven, which, though not of actual Norman date, probably reproduce the design of the Norman originals. This form of spire is octagonal in its upper portion, the diagonal sides bending out below towards the angles of the tower, which they meet in a point. Its shape is due to the timber angle-pieces of the spire being framed into a collar, which is supported by the hip-rafters of the lower spreading sides. This type of spire is common in Germany, as at Erfurth, and also in Scandinavia, as at Alsog and Beo in the island of Gotland. Its character varies considerably according to the relative slope of its upper and lower portions. A fine modern example is that of All Saints Church, Margaret Street, by the late Mr. Butterfield. Both this form of spire and the squat pyramidal roof were subsequently translated into stone, and the former may be found as late as the Perpendicular period, as at Bythorn. We may also suppose that an octagonal timber spire arose sometimes from a flat tower roof, and gave rise to that form of spire so common in France, of which Christ Church, Oxford, is an example. This form, however, like the simple pyramid, was destined to die out, while the broach spire which, if it did not originate in Northamptonshire, was certainly developed in that district, took its place in the Lancet period. The broach spire is, in the main, a copy in stone of a timber roof, and its cardinal sides come down over the sides of the tower and end in dripping eaves, but the broaches which fill the triangular spaces between the diagonal sides of the spire and the angles of the tower are of true stone construction, and, whether their sloped sides meet those of the spire high up or low down, will determine very much the general outline and character of the spire. At first these broach spires are of an obtuse angle and have bold spire lights. They appear as veritable stone roofs, and whether they rest on a slight cornice or corbel table, always overlap the walls of the tower to form dripping eaves. One of the noblest spires of this type is to be found at Frampton, a small village near Boston, hidden among trees. In the towers of the Lancet period buttresses are sometimes employed in pairs at the angles—the diagonal buttress comes later—but they stop at the belfry stage against the flat pilasters which have been retained from the earlier style. The staircase turret likewise stops short either of the belfry stage or the spire eaves, and a corbel table is carried between the angle pilasters so as to offer an unbroken square as seating for the spire. In some cases, as at Ely, Walsoken, West Walton, bold octagonal buttresses occur at the angles of the tower and reach to the cornice line. These must either have been finished with pinnacles, as at Oxford Cathedral, or have carried timber spirelets in conjunction with an octagonal timber spire over the tower, as at Sutton St. Mary. Possibly towers of still earlier date were similarly treated, as the Norman central towers of Norwich and Tewkesbury probably had pinnacles or spirelets at the angles and Tewkesbury once had a timber spire. With the exception, however, of an occasional saddle-back roof, it is improbable that any towers were considered complete in the Lancet and Geometrical periods without a spire either of timber or stone.

As the style advanced the broach spire became more acute and loftier, and the broaches and spire lights less in proportion. The broaches, moreover, began to take to themselves pinnacles either at the extreme angle of the tower or at their apex against the spire, or midway up the slope. Lichfield central spire has two pinnacles on each broach. Next, the bottom spire light was no longer placed on the cornice, but higher up the spire, and the upper spire lights more frequently alternated on the diagonal and cardinal sides. Their gablets were frequently crocketed, and niches with crocketed gable heads were placed at the apex of the broaches lying back on the spire, as at Ketton and St. Mary's, Stamford. The spire itself becomes ribbed or ribbed and crocketed along its angles, and has an occasional horizontal band or moulding, and more pronounced mouldings and a more definite cornice mark its junction with the tower.

At length a momentous change takes place. Cornice and dripping eaves are alike abandoned, and a passage is made round the base of the spire, probably a practical innovation to facilitate the repair of the spire; for spires were more frequently struck by lightning in those pre-lightning-conductor days than at present. For safety's sake the passage required a parapet, as at Ashbourne. Although the parapet might slightly overhang the faces of the tower, being carried forward on the cornice, especially when pinnacles supported it at the angles of the tower, yet it was necessary to set the spire and its broaches in a little so as to allow room for the passage. And thus commenced the shrinking of the spire. Woodford is a simple example of a parapet carried round a broach spire; and, near by, Denford, across the meadows of the Nene, has a parapet carried round a spire of the timber type. Some very fine steeples belong to this Transitional type, and pre-eminent among these is Grantham. Not far away is Newark, evidently by the same architect. Heckington is a particularly noble steeple of this type. It is of strong outline and fine proportions, and its large hexagonal pinnacles admirably support the lines of the spire. It has but little ornament—a little crocketing on the buttress gablets and some carved bosses in the cornice, and the belfry lights are single. It is one of those masterpieces which are independent of any added ornament for their beauty.

In the simple type of broach spire the lines of the broaches satisfactorily carried down those of the spire to embrace the angles of the tower, and, whether seen in front or diagonal elevation, there was a complete unity between tower and spire. Not so with the parapet spire. The first effect of the parapet is to introduce strong horizontal lines between tower and spire. Its second is to cause a certain shrinking of the spire to allow a passage round its base. The third is still more important, and more pregnant of future development. It results from the fact that, while the apparent breadth of the tower increases from the front and angle elevation in the ratio of the side to the diagonal of a square, that of the octagonal spire remains the same. Hence the spire which seems in correct proportion to the tower on front elevation appears too narrow and shrunken on the angle elevation, and the angle pinnacles in like manner appear to have moved away from it, leaving a disconnecting and awkward gap in the skyline, as at Solihull. As long as the broaches were retained their full height behind the parapet, as at Newark, this difficulty hardly presented itself. But hardly had the parapet been introduced when the broaches began to shrink and ultimately to disappear behind it. The church at Godmanhurst furnishes an example.

Then commenced a series of experiments to overcome this double difficulty, namely, the disconnecting effect of the parapet between tower and spire on the one hand, and the difference between the apparent proportions of tower and spire on the front and angle elevations on the other. The most evident solution, and the one that was at first attempted, was to make the angle pinnacles of the tower so massive and tall that the tower should seem to be carried up into the domain of the spire, and the pinnacles themselves should, on the angle elevation, appear to support the spire and fill up the gap between its sides and the angles of the tower. Lichfield is an illustration of this. These large pinnacles begin to appear, in fact, before the broach has quite disappeared, as at Heckington. Other fine examples are to be found at Oundle and St. Mary Redcliffe, Bristol. The disadvantage of this arrangement is that the pinnacles tend to block the passage round the spire. At Oakham the pinnacles, though still massive are rather smaller, and connected with the spire by horizontal masses of masonry, which are pierced so as to form bridges across the passage. It is the embryo of the subsequent flying buttress.

The second method adopted was to keep the tower pinnacles comparatively low and subordinate them to an inner range which filled the space between them and the spire, as in the central tower at Chichester, or the more magnificent one of Salisbury. In fact, in this grand example, the problem seems solved. The inner pinnacles are a mean between the outer pinnacles and the spire, and the eye, following upward the lines of the tower, passes by easy steps from angle pinnacles to inner pinnacles, and from these to the spire itself. Tower and spire are welded together and the unity of the broach steeple is restored. Moreover, the angle view is equally satisfactory with that in front. Yet the parapet is not sacrificed, the tower and spire retain their respective characters, and there is not that confusion between them which one finds sometimes on the Continent, as at Freiburg, and St. Stephen's at Vienna, in which it is impossible to say where tower ends or spire begins.

An elaboration of this idea is to be found at St. Mary's, Oxford. Here, in place of the tower pinnacles each of the pair of buttresses at the tower angles carries an elaborate gabled and crocketed canopy over a sculptured figure, and the inner pinnacles are in two stages with similar elaborate ornament, the whole combining with the spire lights to form a cluster of richly-decorated gablets and pinnacles, from the centre of which the spire rises. This type of clustered spire reaches its fullest expression in the south flanking tower of the west front of Peterborough, in which graceful triangular spirelets rise between tower pinnacles and spire having one side of the triangular base adhesive to the spire, and the opposite angle carried by the tower pinnacle and allowing a clear passageway beneath. The height of the spirelets is so arranged that their apex is on the line drawn from the apex of the tower pinnacles to that of the central spire. In contemplating such an example as this one recognises that the central spire is only one of a cluster, and has entirely ceased to represent the tower roof, as in such early broach spires as Frampton. It has, in fact, ceased to be an essential part of the tower, and has become only an ornamental accessory. It is, therefore, sooner or later, doomed to obey the inexorable law of extinction of useless members.

But there was yet a third way (to be seen at Higham Ferrers) of connecting the angle of a tower with spire, and one which became very popular with the Perpendicular architects. It is to put a small pinnacle at the tower angle, and connect it with the spire by a flying buttress, a poor contrivance, but serving in some degree to carry the eye over the hiatus between tower, pinnacle and spire on the angle elevation. The buttress abuts against the centre of the diagonal side of the spire, and seems sadly to lack articulation, and its particular form suggests resistance to a thrust, which if it existed would make short work of buttress, pinnacle and all. Higham Ferrers and Rushden may be taken as typical examples of this method. Also Moulton and Whittlesea. The magnificent steeple of Louth is the only one in which the flying buttress seems worthy of its position. No, I am forgetting, there is one at Newcastle, in that land of programmes, in which the flying buttress has run away with the spire. At Middleton Cheney an inner range of small pinnacles is introduced, and these are connected by flying buttresses both with the spire and the tower pinnacles. It suggests a tentative arrangement which, in the neighbouring church of King's Sutton, is fully worked out. Here the inner pinnacles are of fine proportions, while the tower pinnacles are mere outliers but connected by a strand of stone which rather suggests open tracery than a flying buttress. This really belongs to the group of clustered spires and is very elegant and beautiful.

We now come to the fourth and last method of uniting tower and spire—by the interposition of an octagon. This occurs in its most rudimentary form at Abingdon, which consists in little more than setting the spire on an octagonal drum and marking the junction by an embattled string. At Exton a beautiful little steeple, amid beautiful surroundings of wood and park, affords an excellent example of the employment of the octagon. The tower pinnacles finish in miniature embattled octagons, which assists in harmonising tower and spire and giving breadth to the design. The octagon, however, seems so evidently to exist at the cost of the spire that the latter looks somewhat strangled by it. But you will already have forestalled me and arrived at Coventry first. It is impossible to speak of the association of octagon and spire without immediately thinking of St. Michael's. Whilst elsewhere in the Perpendicular period they were more busy with towers than spires, the Coventry people seem to have reared their spire as a vindication of the spire and a protest at its increasing neglect.

And a very noble steeple it is, although it excites our wonder as a *tour-de-force* as much as our admiration as a design. The truth is it looks a little too unstable: attenuation is written on every part; the octagon seems balanced on the tower, the spire on the octagon, and the weak ogee flying buttresses add very little to the sense of stability, and rise too high from the tower pinnacles, which are themselves weak in outline. The corona of open panelling at Patrington serves a similar purpose with the octagon, and may almost be regarded as such. A fine design is here marred by the ridiculous straddle tower pinnacles and their flying buttresses and the poor belfry windows. A quite unusual arrangement is found at Maxstoke Priory, where the lower angles are canted in great triangular slopes and the spire set on the octagon so developed. If at Exton the octagon is taken out of the spire, at Wilby it is no less evidently taken out of the tower. The three stages are too equal, and the tower is low in proportion, and appears crushed by its load.

It is on the same lines as this steeple that some of the large German steeples are designed, to which I have already referred, and in which the tower passes insensibly into the spire, as at Freiburg, St. Stephen's at Vienna, and Cologne Cathedral. At Graffham, near Huntingdon, the angles at the upper part of the tower are cut off by squinches carrying pinnacles to form an octagonal base to the spire, an arrangement of which Bloxham may be considered as an elaboration. But if it is true that in the Perpendicular period some of our most famous spires were erected, it is no less true that it is the tower which is characteristic of the style, as exhibited at St. Neots.

By this time the spire had come to be regarded so entirely as an ornamental adjunct and finish to the tower that there was no reason why, if the design required it, it should not be dispensed with altogether. Moreover, the spire was costly, and involved a more difficult problem in design and construction than a square tower with parapet pinnacles and a flat timber roof. Not that one would wish to disparage the Late Gothic tower, for it shares with the fan-tracery vault and the open-timber roof the honour of demonstrating to the world the rigour and originality of the English Perpendicular school.

That the Perpendicular builders were sensible of the value of the spire as a crowning feature of the design, the steeples of Coventry and Louth are sufficient witness, and they not infrequently erected timber and lead spires over towers which were otherwise complete without them, as, for example, the three towers of Lincoln. As Northamptonshire and Lincolnshire, with Peterborough as centre, is the home of the spire, so Somersetshire, with Glastonbury or Wells as centre, developed the most important school of tower design, although Norfolk and Suffolk may lay claim to many excellent examples.

The Somersetshire type is sufficiently distinctive, notwithstanding considerable variation in individual towers, that it can be at once recognised. Of lofty proportions, these towers are usually divided into three stages by stringcourses, and the buttresses, which are in pairs, are set in a little way from the angle of the tower, allowing the stringcourse to peep out, as it were, at the angle. The buttress weatherings usually line with the strings and carry crocketed pinnacles set diagonally, and with one angle engaged with the buttress face above. Similar pinnacles flank the windows of the belfry stages, pierce the centre of the parapet, or are employed at the tower angles with larger pinnacles to form a complex pinnacle system, in which at times an isolated pinnacle is hung out at the angle, supported by a grotesque below, and united above by a strand of stone to the main pinnacle. The parapets are usually embattled and have pierced traceried panelling, and occasionally, as at Glastonbury and Taunton, are very elaborate. In these cases the angle pinnacles are usually of open tracery work. The lowest stage of the west face is occupied by the Tudor arched door, enclosed within a square frame of mouldings, which are sometimes the plinth mouldings brought down with a west window over. Niches for sculpture are often freely used for surface decoration, and the coupled belfry windows are usually filled with a stone lattice of pierced quatrefoils in place of the usual oak louvres. Occasionally, too, sunk quatrefoils form decorative bands beneath the main cornice or intermediate stringcourses.

There are several fine towers outside the Somersetshire district which belong, more or less, to this type, as at Wrexham and Evesham. St. Neots, near Huntingdon, has an unusually fine tower for the district, with certain points of resemblance to the Somersetshire towers. But the strings and buttress weatherings do not line, the engaged pinnacle is of different design, and the belfry lights are insignificant, and go far to spoil the beauty of the design. The central portion of the parapet is carried up higher than the sides in a manner peculiar to this eastern district, other examples occurring at Huntingdon, St. Martin's, Stamford, and Wisbech. A smaller, though not less beautiful, tower is to be found at Tichmarsh, in the land of spires, decorated with quatrefoil bands and gabled niches and crowned with a forest of pinnacles. Here, as in many east county towers, a band of quatrefoils is carried beneath the plinth weathering. There are a few towers carrying octagonal lanterns, as at Irthlingborough. At Lowick the whole design is of excellent proportion, and the octagon ends in a corona of pinnacles. But the grandest example is to be found at Boston, irreverently called "Boston Stump."

The central tower, that crowning glory of the English cathedral, differs from those hitherto described in that it stands on four isolated piers hidden by the adjoining roofs. As a consequence the bold angle buttresses are dispensed with, as there is no support for them, and the tower rises to the parapet without a break in its vertical lines. A comparison between the central and western towers of Canterbury will emphasise this point. Very frequently the central tower carries an octagonal thickening at the angles which carry the angle pinnacles, as at Lincoln. The western towers of this cathedral, though of rather later date, are designed on similar lines. Sometimes small diagonal buttresses are employed, feeling out, as it were, towards the angles of the crossing, as at Gloucester, with its reduced and improved copy at Malvern. Inasmuch as the central tower has to span the nave and transepts, it is necessarily broad, and, as it rises only two stages above the roof, its chief characteristic is its imposing mass, as at Hereford and Wells. Hedon is a fine example of a central tower over one of the larger churches, and Melton Mowbray over one of the smaller ones.

Many of the features of tower and spire design have already been noticed in the survey of their development. It remains to examine one or two points more in detail.

With the exception of the central towers, most towers have an upward diminution, not only to give them an air of stability but, when they carry spires, to counteract the optical illusion of their spreading outwards at the top, due to slope lines of the spire. This diminution is obtained in various ways:—By setting in each stage on the stringcourse from the stage below, as in the Saxon towers and the Lancet towers of West Walton and Walsoken; secondly, by the diminution of buttress projection, as in the vast majority of towers; and thirdly, by giving a batter to the tower or to the buttresses, or both, as at Market Harborough.

Small towers occasionally have no buttresses; the majority have pairs of buttresses, either exactly at the tower angle, as at Grantham, or set in a short distance, as in the Somerset towers; a lesser number have diagonal buttresses, while not a few have an octagonal thickening at the angles. St. Margaret's, Leicester, has diagonal buttresses set upon the usual pair of buttresses below. Of the octagonal angled towers Magdalen Tower, Oxford, is a fine example. This tower also illustrates an important point in tower design, the severity and plainness of the lower stages, and the increase in lightness, elaboration and ornament towards the top.

The fenestration of the Lombard towers followed this principle, and Giotto's campanile is an excellent example of it. Lancet towers, on the other hand, are frequently covered with tiers of arcading over their whole surface, which extend even round the octagonal angles, as at Walsoken, Raunds and West Walton. Raunds has a unique decoration of zigzag weatherings, with the angles decorated by sunk quatrefoils. The staircase turret has already been referred to as stopping beneath the broach spire, or even below the belfry stage. Sometimes it is incorporated with the angle buttresses, as at Heckington and Grantham, in the latter case carrying a larger pinnacle than the other tower angles. At other times it projects boldly from the middle of the face of the tower, or near one angle, or at the angle itself, and stops below the parapet, or is carried up above it. In the latter case it is often finished with an embattled top or spirelet.

Next to the main lines of stages, buttresses and strings the belfry windows claim our attention. They are, as it were, the eyes of the tower, and a tower without them, as at Ringstead, does not look intelligent. Single belfry lights are to be found at all periods, from Polebrook and Heckington to York and Boston. These are often supported by blank panels at the sides, as at Denford and Frampton, or, to take later examples, by the traceried panelling of St. Peter's, Derby. But the general rule is to group the belfry lights in pairs. To more intimately associate them they may be placed beneath the same gabled weathering, as at Newark, or even under the same label, arched or ogee (All Saints, Stamford), or square (King's Sutton), or a crocketed pinnacle may be run up between them. As with the single lights the wall on each side may have flat panels of similar design to the belfry windows, as at King's Norton and Manchester, or the panelled decoration may be so completely carried over the surface that the belfry lights appear rather as interruptions in it, as at Gloucester. Or again, they may be supported by niches, as at Northleach. Less frequently the lights are arranged in triplets, as at Ketton and Kettering.

The lights themselves may have heads of all shapes—obtuse, lancet, ogee, or square-headed, as at Aldwinkle, and St. Peter's, Bath. In Northampton the belfry lights are filled up with a lattice of brick; in Somerset a stone lattice of quatrefoil tracery; elsewhere, generally with small oak louvres like Venetian blinds. In the great French towers the louvres are very large, and give a fine effect of shadow, as at Bourges. The transome frequently occurs, and occasionally the jambs and mullions are extended down below the sill to enclose a traceried panel, which may extend to the next string-course, as at St. Cuthbert's, Wells. The ringing stage usually has single and less conspicuous windows, although in some of the great towers and steeples they are double, and of large proportions and elaborate ornament; examples of such occur at Coventry, Louth, Wrexham and Taunton. The lowest stage of the tower facing west contains the grand door, for use on State occasions, with the west window over it forming, in many cases, one composition with it by having its sill on the tower hood mould, as at Northleach, or being included within the same arched recess, as at Whissendine. Many of these west doors are very fine, as at Kettering and Middleton Cheney, and are worthy of independent study. In the Northamptonshire district the west door is recessed with a shallow porch, which further emphasises its importance. Such occur at Higham Ferrers, at Rushden, and at Keystone, and with these illustrations I will bring my paper to a conclusion.

Mr. G. H. Fellowes Prynne, in proposing a vote to the author for his paper, said Mr. Bidlake was one of the few who really had reverence for Gothic architecture and who sympathised intensely with it. In all his own work he showed that his heart and soul were devoted to the principles of that style, and it was through being imbued with the Gothic spirit that Mr. Bidlake had been equal to the wonderful amount of care and trouble necessary for working out the gradual development of tower and spire. The paper was especially interesting to students because it brought clearly before them the little differences that led up to greater ones, and it was in the gradual development from wooden roof to tower that one realised the growth of the earlier phases of constructive work. Following the points in the paper they had been able to trace the broach as it developed from the timber construction, and afterwards the gradual dropping of the wooden roof and the stone coming into use. It had been said that the spire was an unnecessary adjunct to their work, but, although it was a luxury, yet the æsthetic value of the beautiful symbolic form would not be denied. One could only imagine, said the speaker, how beautifully the Greeks would have treated such an adjunct had they conceived it in their time. Regarding the timber-constructed spires, so many had been lost by fire and the warping of the wood that their disuse was due no doubt to these causes of destruction. They all felt very grateful to Mr. Bidlake for taking them in his lecture from one part of the world to another and throughout England. It was refreshing to follow such a beautiful set of photographs as he had shown them, and they must all at least have felt proud of the Gothic work in their country and the development of spire and tower in the land.

Mr. Francis Bond, M.A., in seconding the vote of thanks, remarked that the superiority of the south-west spire of Peterborough was due, perhaps, to the fact that it was original fourteenth-century work, the other spire being a later but not a close copy. At Lichfield also the south-west spire, built in the fourteenth century, was copied in the following century. Plagiarism was not a practice confined to the modern Mediævalist. He pointed out that the coupled pinnacle, as seen in the Peterborough and Salisbury spires, while artistically the ideal arrangement, was open to the practical objection that the inner pinnacle blocked the pathway round the spire. By substituting a flying buttress for the inner pinnacle the pathway was again made clear, and materials, scaffolding and ladders used in the repair of one of the sides of the spire could be got round without difficulty. In most examples of change of design he was of opinion that the motive for the change was usually some practical builder's reason. A few examples of optical corrections might be added. Some spires had a slight bulge or entasis to correct the hollow appearance of the spire lines half-way up. A somewhat similar entasis occurred in the Greek columns. A very clever method of obtaining the correction was employed at Louth, where the sides of the spire were straight, but the entasis was obtained by enlarging the crockets about half-way up. Another noteworthy bit of design, showing the thought put into later spire design, was that the spire lights sometimes were not made to diminish in size in ratio with the decreasing breadth of the spire upwards, but rather faster, thus increasing the apparent height of the spire. On the slope given to the weatherings of buttresses he remarked that occasionally the principle desiderated by the lecturer was actually carried out. Thus at Netley the slopes of the weatherings are more and more steep as the buttresses project more and more downwards. He regretted that no illustration had been given of Mr. Bidlake's own tower of St. Agatha, Sparkbrook, Birmingham, a church with one of the very noblest interiors of modern times.

Mr. Arnold Mitchell said one of the points which struck him during the lecture was that the system and method of study which Mr. Bidlake had evidently given to his subject was one that might be commended to all students. The paper had traced the changes between two forms of construction so clearly as to show the author possessed a mass of detail and information, and the way to acquire such knowledge was by travelling from place to place and closely observing the surroundings. It was only possible to get such an accumulation of facts as had been put before them by the most careful, continuous and systematic study. Then there was a second point in the paper, and that was the development of the spire, first of all, from timber construction. They were all, said the speaker, students in those things, and they all said what they had to say from their own observations. It seemed to him that the change of the spire began in the desire of the earlier men to build if possible in permanent material. He thought they would find in the architectural development where buildings were begun in wooden construction that as soon as the builders had gained the necessary skill they abandoned the perishable material and built in stone. The spire was only the prolongation of the pyramid roof. The Normans had in view the desire of permanent construction, and their early stone examples were rather the prototype of the spire than of the timber construction.

The President, in concluding the discussion, said he felt they would all agree with him when he expressed regret that, in the beautiful slides illustrating the paper, Mr. Bidlake had omitted to show examples of his own work.

CHEAPER COTTAGES IN RURAL DISTRICTS.*

It will be remembered that the subject of "Cheaper Houses in Rural Districts" was touched upon by our past president (Mr. Walter W. Thomas) in his inaugural address last year.

It may appear a small matter to bring before a society like this to discuss how to design a simple commonplace house or to build a labourer's cottage. The subject has, however, come much to the front lately, and has engaged the attention of landowners, farmers and others as being of considerable importance not only to the labourers, but as regards the very existence of the most important of our industries, that of producing our daily food from the land. Much of this food can be purchased cheaper from abroad than it can be produced here, and the result is to reduce wages and allow the labourer to drift. It has long been noticed that men are leaving the country districts and going into the towns to look for more profitable employment and better house accommodation for their families. Some who leave are, no doubt, disappointed in their quest; the large majority do not return, but settle down in the already overcrowded town districts. This is most unfortunate for both masters and men—to say nothing of the land which requires constant attention to make it productive and profitable to work.

From all we hear, the want of better house accommodation appears to be a great drawback to keeping men in the villages, and goes far to show the need of trying to do something to meet this difficulty, or want, by adopting a more simple mode for providing better houses, so that the rustic labourer can look forward to more comfortable homes, for "home-life" is appreciated much more in the country than in the towns. This would doubtless, in time, create a feeling of contentment, especially if the labourer could have a good size plot of land near, to give him occupation for his spare time, and a general interest in his surroundings. Various efforts have been made, mostly I believe by large landowners, to provide better accommodation for their work people of the higher class, such as gardeners, gamekeepers, woodmen and others employed on their estates.

Very pretty dwellings are often seen as one travels through the country, which form very charming villages, but the houses often appear to have been built regardless of cost. The owners of such property are deserving of all praise, and are to be congratulated for providing such dwellings for their dependents. Such buildings, however, cannot be taken as models to meet the want under consideration, viz. the ordinary farm labourer's cottage. And why has this want not been met? I fear the answer is that it does not pay to build such houses; in other words, the low rents obtainable do not give a fair return on the outlay or cost of erecting them. To solve this problem is the object of our discussion this evening, and I hope that ideas may be suggested that will lead to some more simple and cheap form of construction being formulated for the guidance of those interested in providing suitable habitations for the class so much in need of them.

As architects, we should not think the matter too insignificant to try and work out some arrangement by which the cheapest suitable materials may be put together with the smallest amount of skilled labour possible, as it is in the labour that the saving is likely to be effected. It goes without saying that the design (if I may use the word) must be of the simplest form in order to bring the work more within the scope of the labourer to carry out, and to use the material of the district in which the cottages are required. To carry out this idea, I would suggest concrete construction of the simplest possible form, as the aggregate for this material can generally be found on the land in the form of gravel, broken stones, or burnt clay ballast, which might be collected and prepared by labourers when other work is slack; and the same men, with very little instruction, could make the concrete and fill in the trenches for foundations and in moulds for walls. The framing of the moulds could be set up and shifted from time to time by an ordinary country carpenter, who is generally a very handy man, able to do almost anything. Concrete steps, heads and sills for windows, and jambs for fire-places could also be made in moulds during bad weather or odd times when the labourers have nothing else to do, and thus provide work for the unemployed. In this way rough strong walls (and the ground floors) might be formed with the cheapest materials and labour. This concrete construction, as already remarked, would require the simplest possible plan for the houses. Walls set square, without projections for bay windows or porches, and I would suggest angle fire-places grouped together in the centre of the building, all carried up in one chimney stack. This would economise material and space, and keep the heat in the houses better than when placed on the outside walls.

Fire-places in bedrooms might be left as recesses without grates or chimney-pieces, but having sunk concrete hearths for burning faggots, rough blocks of wood or peat fuel. Failing the foregoing, oil-stoves could be used in case of illness, as a can of oil is more easily obtained in the country than a sack of coals. Such recesses would also be found useful for standing a pail or other receptacle for water, liable to be upset, whereas being on a sunk hearth would prevent leakage to the rooms below. A thick wooden shelf fixed above the recess would answer all requirements of a mantel.

The kitchen should be provided with a portable self-setting range (but no boiler), and the living or sitting-rooms fitted with a hob or other simple grate. The ground floor to be formed with concrete rendered smooth. The sitting-room only to have a boarded floor laid direct on the concrete. The bath, sink and part of the setting for copper could also be formed of concrete, the waste pipes being 3-inch glazed stoneware built in during formation of the walls. By using concrete, good solid fire-resisting and weather-resisting walls could be built at a cheap rate, as only the cement would have to be obtained from a distance, thus very little carting would be required and the labour would be of the cheapest kind.

The roofs should be of single span or lean-to, thus dispensing with complicated labour required for bay and dormer windows, or return gables involving hips and valleys, with the usual waste of material, and considerable extra labour on timber and leadwork, as also in the slating or tiling. Pantiles are about the cheapest covering for plain roofs, and do not require much skill in laying, and last a long time.

The external appearance of a building constructed thus would doubtless be somewhat rough and rustic, but with a little assistance from nature the walls could soon be covered with ivy or other greenery forming a pleasing contrast with the red tiles, and would, I think, be more in harmony with the usual country surroundings, and better adapted to the requirements of the class of people who are to live in them, than the slight ornamental houses often seen, and which appear very much out of place.

Internal convenience should, however, be considered more than external effect. My idea is that the interior should be severely plain, but every nook and corner utilised, and everything strong and not likely to get out of order. For this reason I would avoid hung sashes in cased frames and panel doors, and have casements and ledged doors hung in solid frames, set and built in as the walls are formed, keeping the heads of frames or lintels close up to the ceiling for better ventilation of the rooms, and to act as plates for the first-floor joists. They could be held in position with angle or "T" irons, fastened on the top the whole length of the walls, to which the joists could be notched.

I would dispense with locks and complicated fastenings likely to get out of order, and have Norfolk latches and barrel bolts for all doors except those to front entrances, and wrought-iron hooks and eyes to the casements. The stairs should be in one flight without winders, and enclosed with inch matchboarding to save balusters and newels. Matchboard partitions save space, are not desirable between rooms, but can be used to form passages or cupboards off the rooms. Cupboards should be lighted and ventilated with iron gratings, or perforated zinc where possible.

Water supply in country places is often difficult to obtain. It is therefore desirable to catch as much as possible from the roofs for washing purposes in water-butts or tanks. The water-butt is raised to allow, to a certain height, for the overflow to enter and leave the bath automatically, thus keeping a storage for washing days, a trap being conveniently placed for cleaning out in case of stoppage. The wastes are fitted with wooden plugs to save plumbers work. Drinking water is better obtained from an Abyssinian tube well and pump than dipped direct from an open well. When the supply is abundant water-closets might be introduced, otherwise earth-closets should be placed in outbuildings having space for a good supply of dry earth.

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* A paper read by Mr. J. R. Manning at a meeting for discussion of the Society of Architects, December 14.

It is, I think, by some such arrangement as the foregoing that we must endeavour to save expensive materials and skilled labour in building cheaper houses. The walls should be solid and strong, and all other work substantial and not likely to cost much for repairs and up-keep.

Other ideas will doubtless occur, and I trust the matter may be fully discussed, and some practical conclusions arrived at to endeavour to keep more men on the land, and prevent to some extent the overcrowding in towns.

CASTLE RUSHEN.

THE ancient stronghold of the Kings of Man, Castle Rushen, at which works are now in progress by direction of Lord Raglan, stands on an eminence on the northern bank of the Silverburn at Castletown, the natural metropolis of the southern division of the island and the ancient seat of the insular government. The date of this noble relic of feudal times is not known, but though tradition assigns it a much earlier origin, its character shows it to belong to the latter half of the thirteenth century. It is probable, however, that the existing structure occupies the site of a much earlier building. The main body of the castle is a square keep, with massive towers on each of its four sides. The walls of the keep are 12 feet thick at their base and 7 feet thick at their summit. The north, or flagstaff tower, is 80 feet high, and the other three are each 70 feet. The ancient gate of the keep was placed about the middle of the south wall, and a lofty portcullis exists in its east side, between the north and south towers. Enclosing this central mass, at a distance of about 15 feet, is an embattled wall 25 feet high, 9 feet thick, defended by seven square towers placed at irregular intervals. There is a sally-port towards the harbour, and the appearance of others which opened onto the moat. Outside this wall was the ditch or moat, now filled up. Beyond the moat is a glacis of irregular form, fortified with three round towers or redoubts, now in ruins. In the central keep was the residence of the Kings of Man, and late, of the governors; and, in addition to numerous other rooms, a large banqueting-hall and a chapel. Castle Rushen was also a State prison, and in it Bishop Wilson was confined until released by the king on appeal. It was used as the gaol until the year 1890, when a new prison was erected near Douglas.

SALARIED DISTRICT SURVEYORS.

THE London County Council on December 8, 1903, referred to the Building Act committee to report whether it was advisable that the Council should exercise the powers conferred upon it by section 158 of the London Building Act, 1894, to pay fixed salaries to district surveyors instead of their being remunerated as at present by fees, due regard being had to the statutory responsibility of the district surveyors for the stability of buildings, &c., being in no way lessened. For some time prior to the passing of this reference by the Council, and subsequently, the committee say they have given most careful consideration to the question of the payment of district surveyors by salaries, and in the London Building Acts (Amendment) Bill, 1905, provisions were inserted with the object of facilitating the introduction of a proper system of payment by salaries. These provisions were, with other parts of the Bill, withdrawn, and they have therefore since considered whether the Council could advantageously exercise the powers conferred upon it by section 158 of the London Building Act, 1894. Their last report is as follows:—

It does not appear to us to be necessary to dwell at any length upon the desirableness of substituting fixed salaries for the present system of payment by fees, but it is of course very important to consider carefully whether the change can be effected without detriment to the public interests and without injustice to the existing district surveyors. As regards the first point we would however state that in the districts just outside London, and also throughout the country, the officials entrusted with the supervision of building operations are remunerated by salaries paid direct by public authorities and not by fees paid by the persons whose work has to be supervised by them. We are strongly of opinion that the existence in London of a class of public officials remunerated by fees paid by the public is an anomaly, and that any practical proposals for substituting a system of payment by salaries would be in accord with public opinion.

As regards the question of practicability we think that before stating the conclusion we have arrived at, it may be convenient to indicate briefly the position of district surveyors under the London Building Acts. For the purposes of the administration of the London Building Acts, London is divided into districts to each of which is appointed a district surveyor whose duty it is to see that the provisions of the Acts are complied with, and in cases where there is any breach of such provisions to take proceedings in respect thereof, or to notify the Council if the provisions so contravened relate to any matter with which he is not authorised to deal.

Broadly speaking, it is unnecessary for a person erecting or altering a building to make any application to the Council so long as he complies with the provisions of the London Building Acts, but in many cases the Council has a discretionary power to allow some departure from the strict provisions of the Acts.

The district surveyors are remunerated for their services by fees paid by the builders according to a fixed scale laid down in the third schedule of the London Building Act, 1894. In dangerous structure cases the Council, who may employ any competent surveyor, but as a matter of practice employs the district surveyor, pays his fee and recovers it from the owner of the property, and in certain cases the Council also pays a fee to district surveyors for special services performed.

Section 158 of the Act of 1894 provides that "the Council may at any time by order cause such fixed salary as they may determine to be paid to any district surveyor by way of remuneration instead of fees, so that the amount of such remuneration be not less than the amount of the average of the fees for the last seven completed years preceding such determination, and thereupon the fees which would have been payable to such district surveyor in pursuance of this Act shall be paid to the Council and carried to the credit of the county fund."

By section 160 of the Act a district surveyor is required to send to the Council within seven days after the first day of every month a return of all work supervised and special services performed by him in the exercise of his office within the previous month, and of all fees charged or received in respect thereof; and by section 162 the superintending architect is required to examine such returns and report to the Council if anything therein specified appears to be in any respect fraudulent or incorrect. The gross totals of the fees received by district surveyors during the seven years ended December 31, 1904, as stated in these returns, are as follows:—

	Gross Fees for Whole County	Gross Fees for the District of Penge, which by the Local Government Act, 1899, was constituted an Urban District Council.
1898	£49,152 12 3	£499 18 9
1899	50,281 1 4	610 7 9
1900	51,203 0 2	662 12 7
1901	52,114 11 1	529 9 3
1902	49,450 17 9	128 6 6
1903	52,535 13 0	
1904	52,931 15 6	
	357,669 11 1	2,430 14 10
	2,430 14 10	
Total gross receipts for 7 years ended December 31, 1904, excluding Penge	355,238 16 3	
Average of receipts for 7 years ended 1904, excluding Penge	50,748 8 0	

It will be seen that the fees show an upward tendency, and that on these figures there would be a balance in favour of the Council of about 2,000*l.*, if the Council determined to proceed under section 158 of the Act and pay district surveyors by salaries. If it should be necessary for the purposes of such determination to calculate the salaries from the fees received during the seven years ending December 31, 1905, there is no reason to anticipate that when the figures for 1905 are available they will show any decrease on the figures for 1904, or that there will be any diminution in the estimated balance in favour of the Council.

It will be seen, therefore, that it is possible for the Council to at once determine that district surveyors shall be paid by salary at an early date without involving any charge on the rates. We do not, however, think that this alone would be sufficient, as the work of a district might greatly increase or decrease after the salary for the district had been fixed. Moreover, the present districts vary both in area and value, the remuneration received by the existing district surveyors ranging from about 2,000*l.* to 200*l.* The conditions of service of the district surveyors also vary: some are wholly unrestricted as to private practice; some are prohibited from practising in their own districts but may practise elsewhere, and others (those appointed since 1890) are required to give their whole time to the duties and are prohibited from taking any private practice whatever. The Council has for years past, as opportunities have occurred, sought to make the districts more uniform in value and area. We therefore think that if the Council should determine to pay district surveyors by salaries, it should at the same time lay down the lines upon which future rearrangements of districts should proceed, and we have accordingly drawn up what for convenience of reference may be termed a model scheme. This scheme provides for the division of London into thirty-three districts, each district consisting, as far as possible, of one or more county electoral divisions. We suggest that for sixteen of these districts a salary of 1,000*l.* a year net, for eleven districts a salary of 800*l.* a year net, and for the remaining six districts a salary of 500*l.* a year net should be paid to the district surveyor, and that in each case the expense of the necessary clerical and professional assistance required by the district surveyor and the office expenses should be borne by the Council.

The total estimated cost of the scheme is about 40,245*l.*, and as the fees received during the year ended December 31, 1904, amounted to nearly 53,000*l.*, there would be, if it were possible to adopt the scheme in its entirety on a certain date, a very substantial margin to secure the Council against loss by shrinkage of fees, &c. There are, however, at the present moment fifty-seven district surveyors' districts, seven of which are vacant, and the scheme could not be put into operation at once without involving the compulsory retirement of seventeen district surveyors and thereby entailing the payment of a large amount of compensation.

We are of opinion, however, that if the Council proceeds at once to exercise the powers it possesses under Section 158 of the London Building Act, 1894, many of the present district surveyors will be prepared to co-operate with the Council with a view to facilitating the speedy adoption and insuring the success of the model scheme, or a scheme similar to it in all essential respects.

We would point out that the question of the payment of district surveyors by salaries was considered by the Council on June 17, 1890 (pp. 529 and 530) and July 1, 1890 (p. 584), and that the Building Act committee at that time reported as follows:—

"If the plan were adopted of paying district surveyors a fixed salary based upon the average fees for the previous three years (and this, it appears from the Act, must be the basis for such payment), we think that injustice might be done to a district surveyor in whose district building operations were increasing, because, although extra work would devolve upon him, the Council would be receiving the increased fees. The system would be equally unsatisfactory in the case of a district where the fees might fall either from diminished building operations or from a cause which may be suggested, viz. that a salaried district surveyor might not be so anxious to recover the fees as at present."

We have very carefully considered the reasons which led the Council in 1890 to decide to continue the system of payment by fees, and we are of opinion that the first, which was based on the probability of the amount of work in any given district varying from time to time, will be adequately met by the adoption of a model scheme such as we have suggested. As to the possibility of loss of fees, it has to be remembered that the conditions of service have largely changed since 1890, and we do not fear that district surveyors will, if paid fixed salaries, be less anxious than they are at present to recover the fees due from builders.

There are two further points to which we would draw attention. First, as to the collection of the fees payable to district surveyors. This we think could be most conveniently and economically performed by the district surveyors. In the second place, the fees payable to district surveyors for the duties which they will be required to perform under the London Building Acts (Amendment) Act, 1905, will be payable to the district surveyors, whether district surveyors are paid in future by salaries or continue to receive their remuneration, as at present, from the fees paid by builders. The greater part of the fees payable under this Act will, however, cease when existing buildings have been dealt with. Moreover, we anticipate that if the Council adopt the model scheme suggested, it will be possible to arrange for district surveyors appointed in the future to accept a fixed salary to cover all services performed by them under any of the Building Acts.

There are at the present moment seven districts vacant, and, owing to some of the present district surveyors being of an advanced age, it is not unlikely that more vacancies will occur in the near future. Some of the vacant districts have been vacant for a considerable time, and it is extremely desirable that permanent arrangements should be made for their supervision without further delay. The present time is therefore an opportune one for the Council to deal with the matter, and such a favourable opportunity is not likely to occur again in the near future. For financial reasons it would be most convenient that the change, if adopted, should take effect as from April 1, 1906. As there will be a great deal of work in connection with the detail arrangements which will have to be made if the Council shall decide to pay district surveyors by salaries, it is most desirable that the matter should be dealt with by the Council, if possible, before the recess. We have been in communication with the finance committee on the subject, and as soon as they are prepared to report we will submit definite recommendations to the Council.

We would add that we are advised that the responsibility of the district surveyors will be in no way altered, or their status affected, if the Council shall decide to pay them by salaries.

In the meantime, in view of the importance of the matter and in order to enable our proposals to be easily understood, we have caused a cartoon plan, showing the existing districts, to be exhibited in the Council chamber, and also one showing the districts as proposed in the "model" scheme.

L.C.C. Architect's Department.

The following report has been prepared by the establishment committee of the London County Council:—

We have had under consideration the question of the staff rearrangements in the architect's department which will be necessary in view of the large amount of additional work which will fall on the department consequent on the London Building Acts (Amendment) Act, 1905, becoming operative. The Act will come into operation on January 1, 1906, as regards new buildings (except dwelling-houses with not more than one family) with storeys more than 50 feet above the level of the ground, or which are occupied or adapted to be occupied by more than twenty persons; new and existing buildings with shops projecting 7 feet or more beyond the main front; new and existing buildings used partly for the storage of inflammable liquid, and partly as living-rooms, &c.; means of access to roofs of projecting shop buildings and other existing buildings (except dwelling-houses occupied by not more than two families), and every new building having more than two storeys above the ground storey or exceeding 30 feet in height.

The Council is required to deal with cases within one month from the deposit of plans (or two months during the summer recess) and a period of fourteen days only is allowed within which the Council may refuse to issue a certificate after notice of completion of the work required. All cases will thus have to be dealt with promptly and effectively. The Act also allows an appeal by the owner to the Tribunal of Appeal with respect to any requirement by the Council or refusal to sanction exemption from the provisions of the Act, and the preparation of plans and particulars to support the Council's case before the Tribunal of Appeal will become necessary. About 10,000 buildings will have to be dealt with, and the duties which will devolve on the department will be very heavy. They will consist principally of the preparation of reports on applications and the preparation of plans and particulars in cases of prosecutions to support the Council's cases. We may remind the Council that the details for giving effect to the method of bringing into force the provisions of the Act were not those urged by the Council, but Parliament having by modifications increased the responsibilities of, and the work to be performed by, the Council there is no option but to make adequate arrangements for giving effect to the provisions of the Act.

We have very carefully considered what assistance must be afforded to the architect to enable him to successfully cope with the very large amount of additional work falling on his department, and the Building Act committee have also communicated with us on the matter. The work embraced in the Amendment Act is entirely new, and includes a series of buildings not hitherto within the control of the Council. In the absence of definite experience of this work, it is difficult to forecast with precision what additions to the staff will be necessary. In the first instance the work will most probably be of a fluctuating character, and the additions to the staff will be mainly of a temporary nature. It is necessary, however, to provide a working organisation, and in the circumstances we are advised that the most satisfactory arrangement will be to amalgamate the work of providing means of escape in case of fire now dealt with in the two secions of the architect's department. The work would thereby be concentrated, and moreover we are convinced that it will be better on every ground that this work, which will be of a somewhat delicate nature, should be in the hands of experienced officials who have for years been trained in business somewhat similar in character rather than to appoint a staff of entirely new officials. With regard to the permanent staff, our recommendations are as follows :—(*a*) That Mr. J. C. Stransom, whose salary would in ordinary circumstances rise to 500*l.* on April 1, 1906, be promoted to supervise the work at the commencing salary of 500*l.* rising to 600*l.* a year. Mr. Stransom is an A.R.I.B.A., and possesses the necessary qualifications and experience for such a position, having conducted the theatres work of the architect's department for nine years ; (*b*) that the salary of Mr. C. J. T. Dadd (375*l.* a year, rising to 400*l.* on April 1, 1906) be increased to 450*l.* by annual increments of 25*l.* ; (*c*) that the salary of Mr. Todd (350*l.*) be increased to 400*l.* by annual increments of 25*l.* ; and (*d*) that Mr. Turner (260*l.*) should be promoted to the position of senior assistant at 300*l.* a year, rising to 350*l.* by two annual increments of 25*l.* We also propose that Messrs. Ermrich, Weald, Greig and Davidge, who are on the unestablished staff and in receipt of 4*l.* 14*s.* 6*d.*, 4*l.* 4*s.*, 3*l.* 18*s.* and 3*l.* 18*s.* a week respectively, be placed on the permanent staff in the first class at yearly salaries approximating to their weekly rates of pay ; and in connection with the clerical work to be performed, which will no doubt be heavy, we suggest the promotion to the first class of Mr. Riant, that the consequential vacancies in the second and third classes should be filled by the promotion of Mr. Green and Mr. Nott, and that an additional fourth-class clerk should be appointed.

We also ask that authority may be given for the employment of assistants on the unestablished staff to the extent of 50*l.* a week. We desire to say that the full sum will only be expended if it is found absolutely necessary, but we do not advise the authorisation of a smaller sum owing to the pressure which will probably arise in the initial stages of the work.

GENERAL.

Mr. H. W. Hobbiss, of Birmingham, has been successful in the competition for the Lord Norton memorial, which will consist of a hall, club-rooms, &c., in Birmingham. Messrs. Buckland & Farmer were placed second. The assessor was Mr. Paul Waterhouse.

The Council of the Royal Scottish Academy presented the School Board of Edinburgh with 750 tickets of admission to the exhibition of the works of G. F. Watts, for the use of the class teachers.

The Académie des Beaux-Arts have elected four "correspondants," viz. M. de Vriendt, of Ghent (painting) ; M. Beulluire y Gil, of Madrid (sculpture) ; Mr. R. Phenè Spiers, of London (architecture) ; and Mr. Seymour Haden, of London (engraving).

A Memorial Tablet has been affixed by the London County Council to the house, No. 8 Frith Street, Soho, in which William Hazlitt, the author, died on September 18, 1830.

The Plans prepared by Mr. E. W. Mountford for the town hall which is to be erected in Lancaster at the cost of Lord Ashton have been sent to the Corporation.

M. Luc Olivier Merson has been appointed chief of the atelier of painting at the Ecole des Beaux-Arts, Paris.

Mr. W. Moss Settle, architect, of Barrow and Ulverstone, died last week at the early age of twenty-nine. He was the son of an architect and was able to secure a large practice.

The Old Students of the Manchester School of Art decided on Saturday to have a memorial of the late Mr. R. H. A. Willis. Mr. Willis was head-master of the school from 1882 to 1892, before it passed under the control of the Corporation, and at the time of his sudden death last August he was principal of the Metropolitan School of Art in Dublin. It was decided to cast two bronze replicas of a panel, "Motherhood," executed by Mr. Willis and exhibited at the Royal Academy, and to place them in public institutions, one in Manchester and the other in Ireland. The reproduction will be entrusted to M. Rudier, of Paris.

Mr. Hyman H. Collins, architect and surveyor, died last week at his residence in Maida Vale. He was district surveyor of the eastern division of the City of London. Mr. Collins has been connected with the Institute for nearly fifty years. He was alderman of the local Borough Council.

The Hunterian Museum of Glasgow University now includes a section of an oak pile from the foundation of St. Mark's Campanile, Venice, which was founded in 888 and fell in 1902. It bears the seal of the Municipality of Venice, and is in excellent condition. It is about half a foot in diameter.

Mr. W. Nicholson, smoke inspector of Sheffield, has been asked by the India Office to go to Calcutta for six months to act as chief smoke inspector. The Sheffield City Council have given him leave for six months, and he departs on December 28.

Mr. G. F. Watts's fresco in Lincoln's Inn Hall has faded so much that the benchers have deemed it necessary to have an elaborate painting made of the work. Accordingly, for the last three months an artist has been preparing a duplicate in miniature. The fresco, which covers the upper half of the north wall of the hall, is the largest in this country. It represents a series of grouped figures, the lawgivers of the world, from Moses down to our own King Alfred. The name Mr. Watts gave to his work is "The School of Legislature."

Mr. Matthew H. Holding, architect, Northampton, has been placed first in a competition for a Council school to accommodate 1,110 children at Northampton. Mr. H. O. Cresswell, the assessor, placed second the plans submitted by Messrs. H. Norman & W. D. Gibbons.

Professor Reilly, of the School of Architecture of the University of Liverpool, has issued a prospectus of a folio it is proposed to publish annually containing measured architectural drawings. The first number of the publication will contain a complete external survey, with detail drawings to large scale, of the Town Hall, Liverpool ; the Custom House, Dublin ; the Senate House, Cambridge ; the Palace of the Petit Trianon and the Palace of the Grand Trianon, Versailles, and the Orangery, Kensington Palace.

The Late Mr. Alexander Mills, of Bowdon, one of the founders of the Manchester Society of Architects in 1865, has left a sum of 8,000*l.*, together with books and pictures, for the purpose of establishing independent premises for the Society.

The Theatres and Music Hall Committee of the London County Council have considered plans submitted by Mr. W. G. R. Sprague, on behalf of Mr. Seymour Hicks, showing the arrangements proposed to be adopted in the construction of a new theatre in Shaftesbury Avenue, with frontages to Wardour Street and Little Rupert Street. The applicant has agreed to surrender the land required for the widening of Wardour Street to 40 feet at the part in question, and as a result the site will comply with the regulations of the Council. Accommodation is shown for an audience of 1,172 persons seated and 130 standing. The committee are considering the whole question of standing in places of public entertainment, and think that the applicant should be informed that the approval of the present plans is subject to any decision that may be arrived at hereafter by the Council with regard to the question of standing in those places.

The Governors of George Heriot's Trust have approved a scheme for the erection at the school in Edinburgh of a building to provide classrooms at an estimated cost of 4,850*l.* The plans were prepared by Mr. J. Anderson, superintendent of works, after an inspection of English and Scottish art schools.

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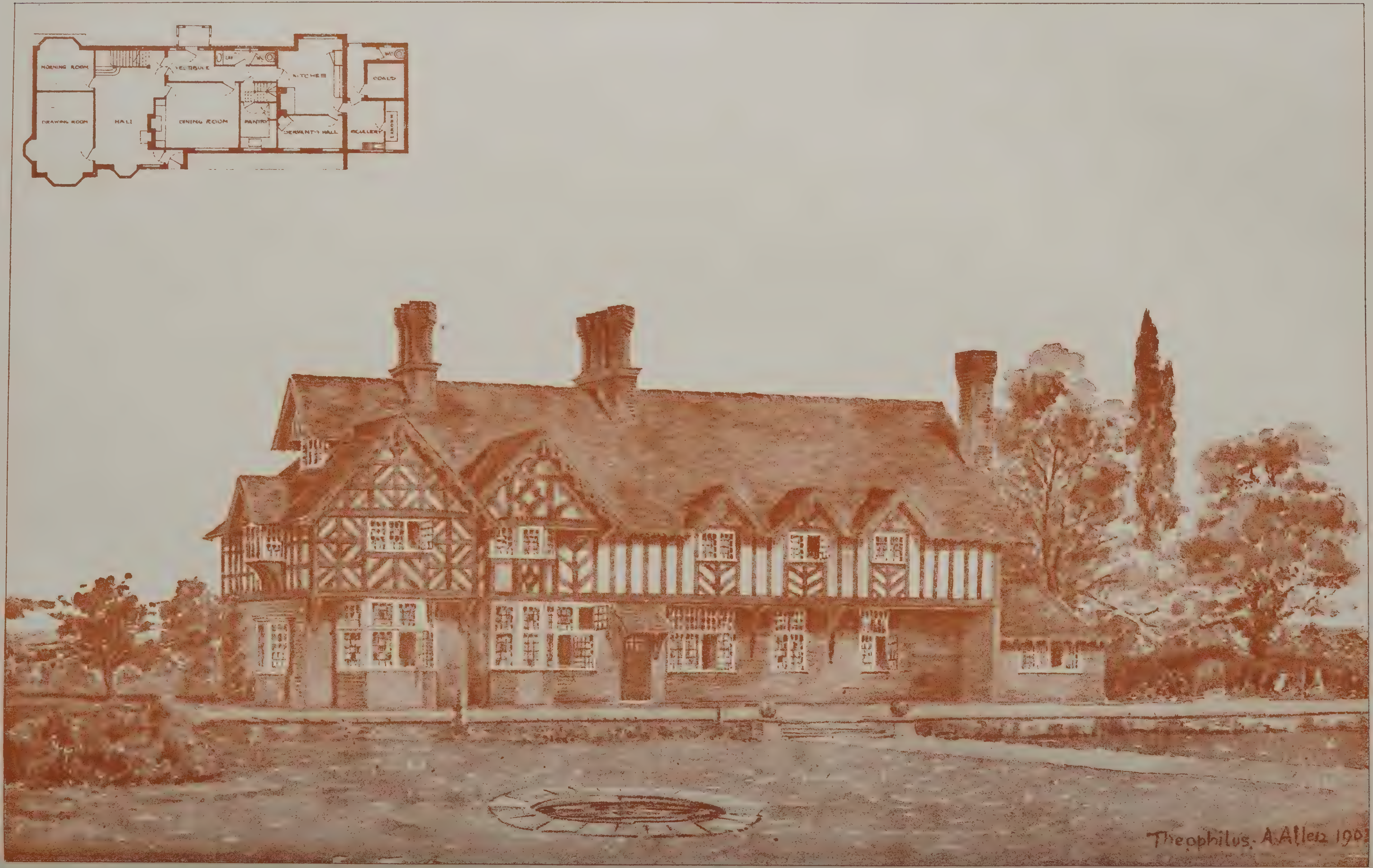

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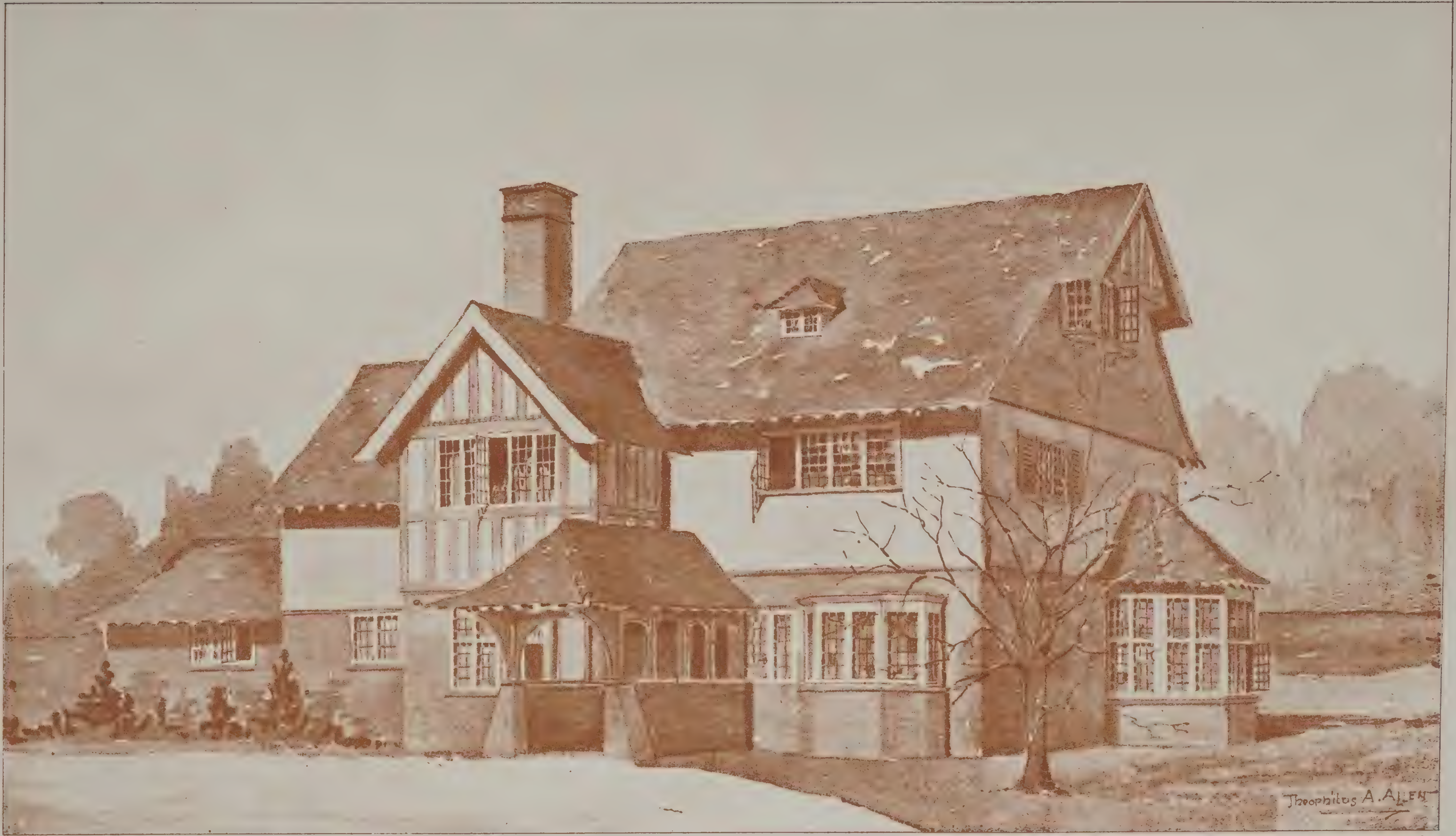

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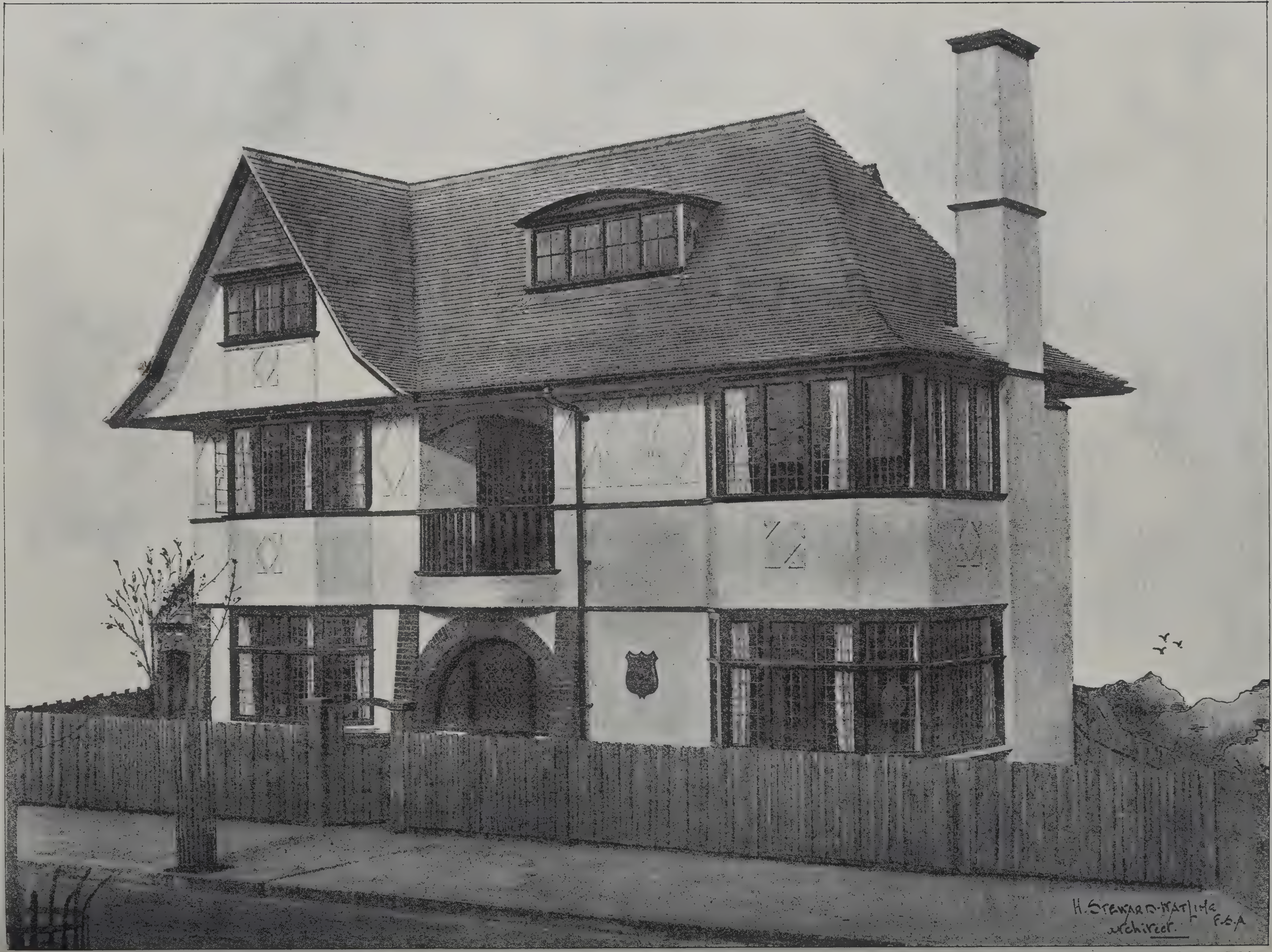

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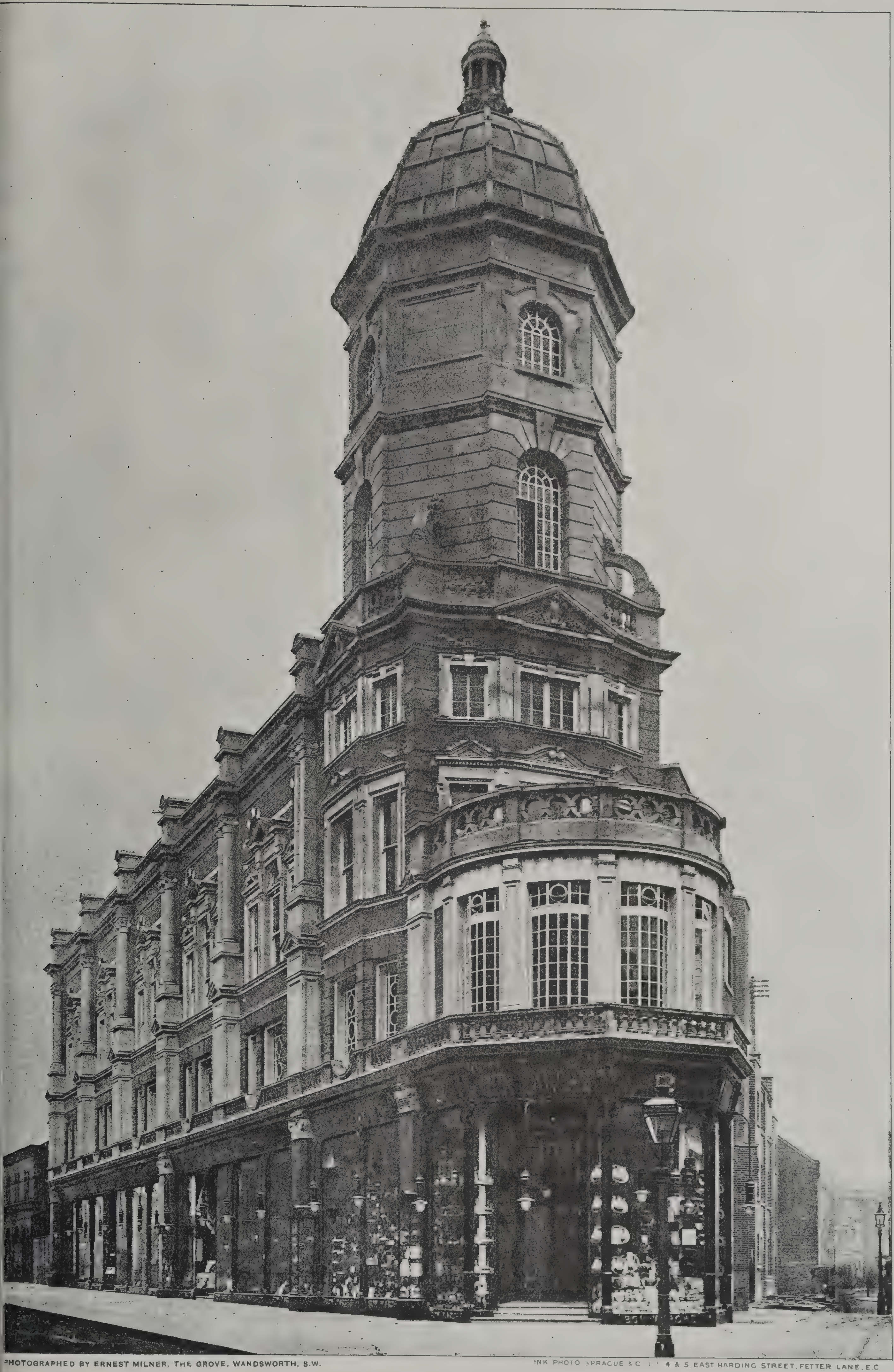
KINGSWAY HOUSE, DOVERCOURT.



PHOTOGRAPHED BY ERNEST MILNER, THE GROVE. WANDSWORTH, S.W.

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THE NEW ADDITIONAL PREMISES, BON MARCHÉ, BRIXTON, S.W.

J. WALLIS CHAPMAN, Architect.

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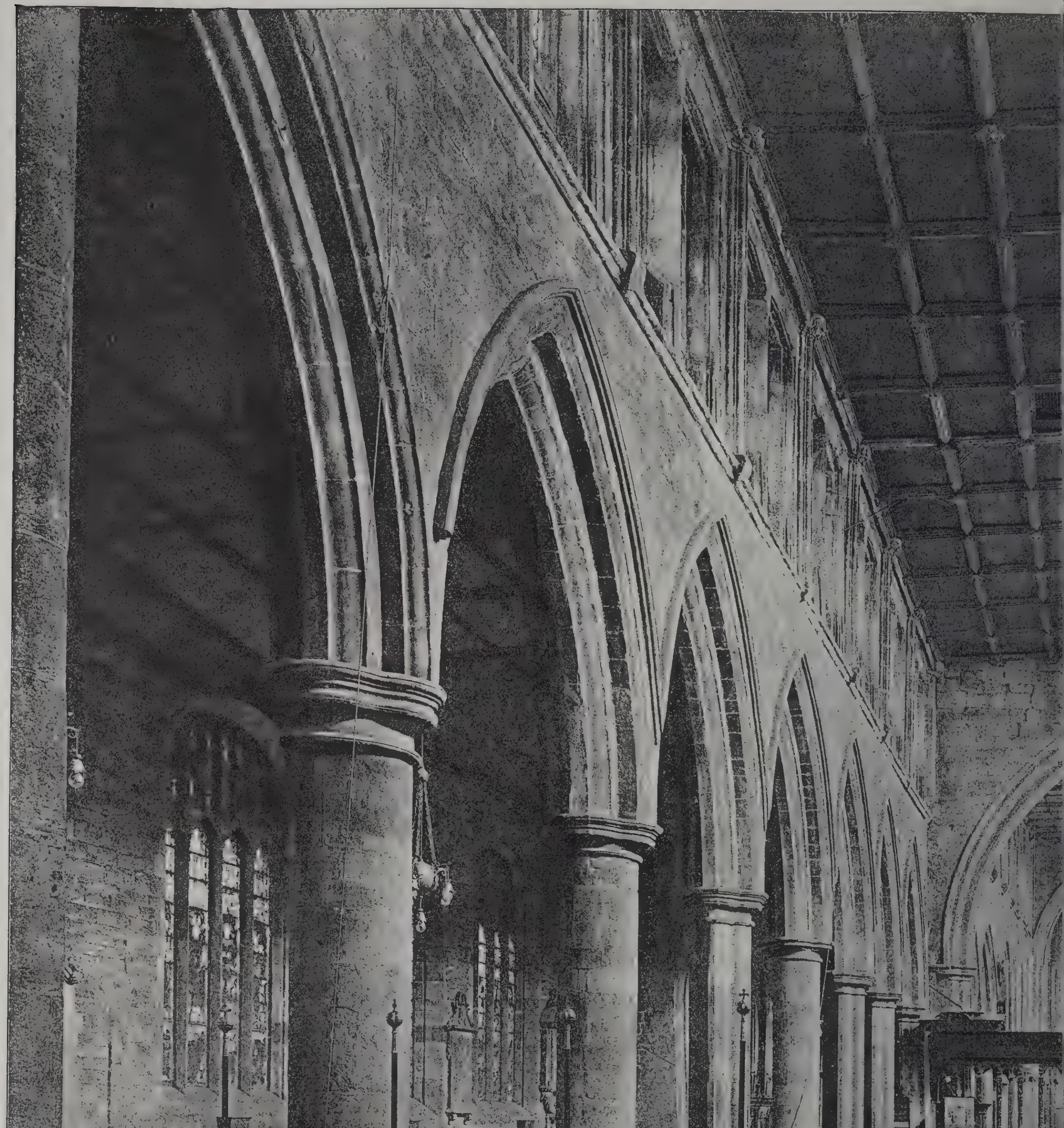

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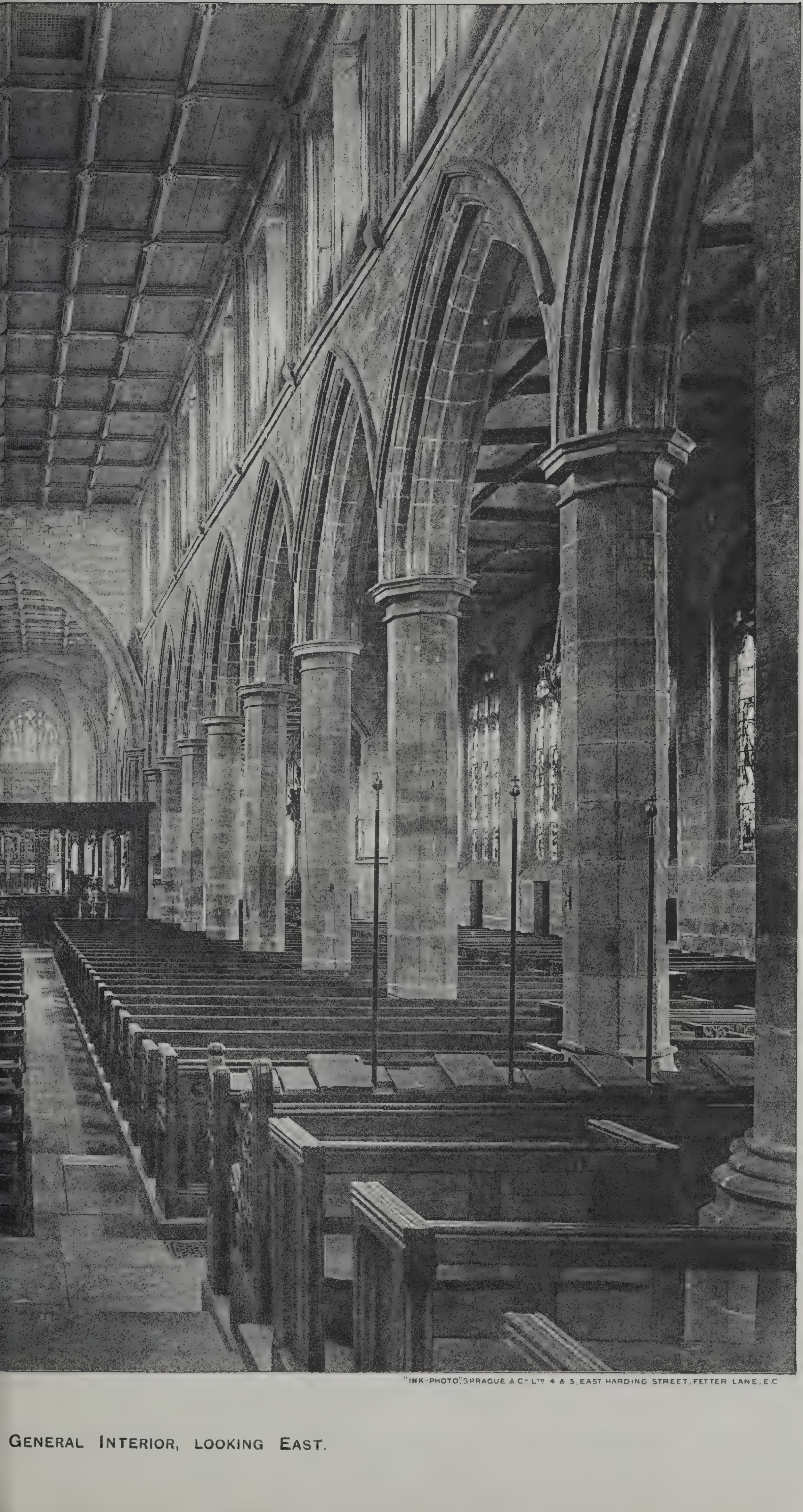
CATHEDRAL SERIES, No. 546.—WAKEFIE



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General Interior, looking East.

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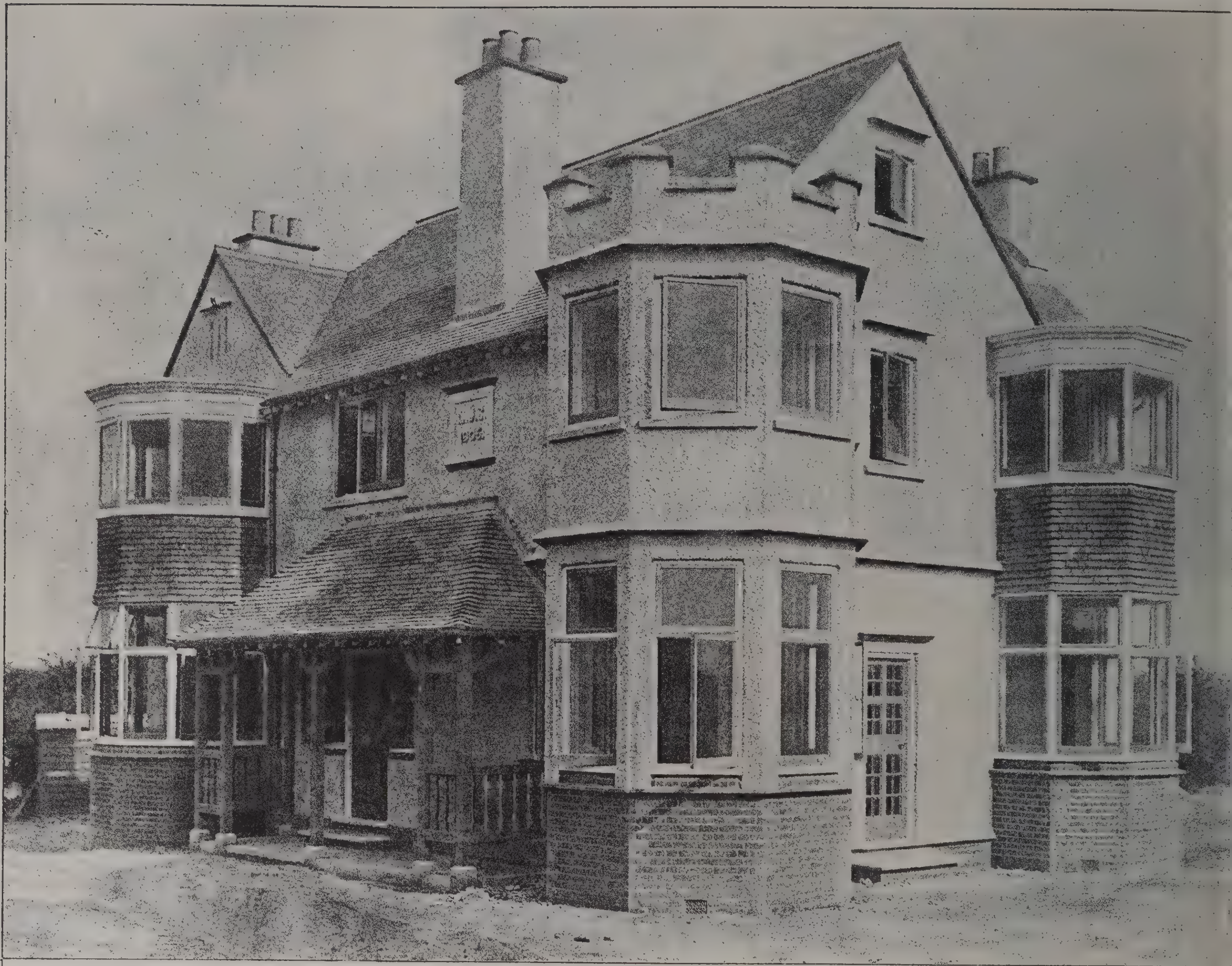
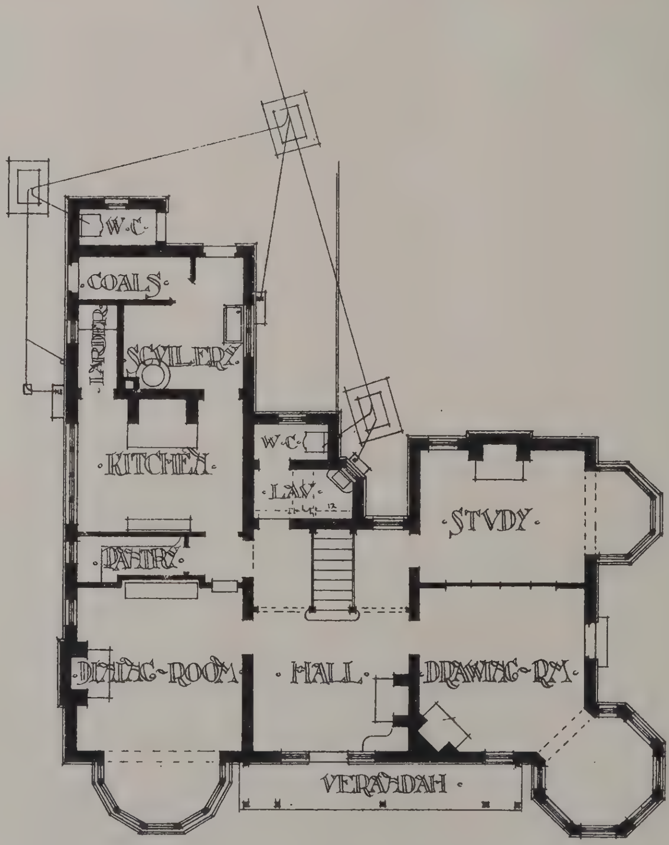


SOUTH-WEST VIEW OF HOUSE.



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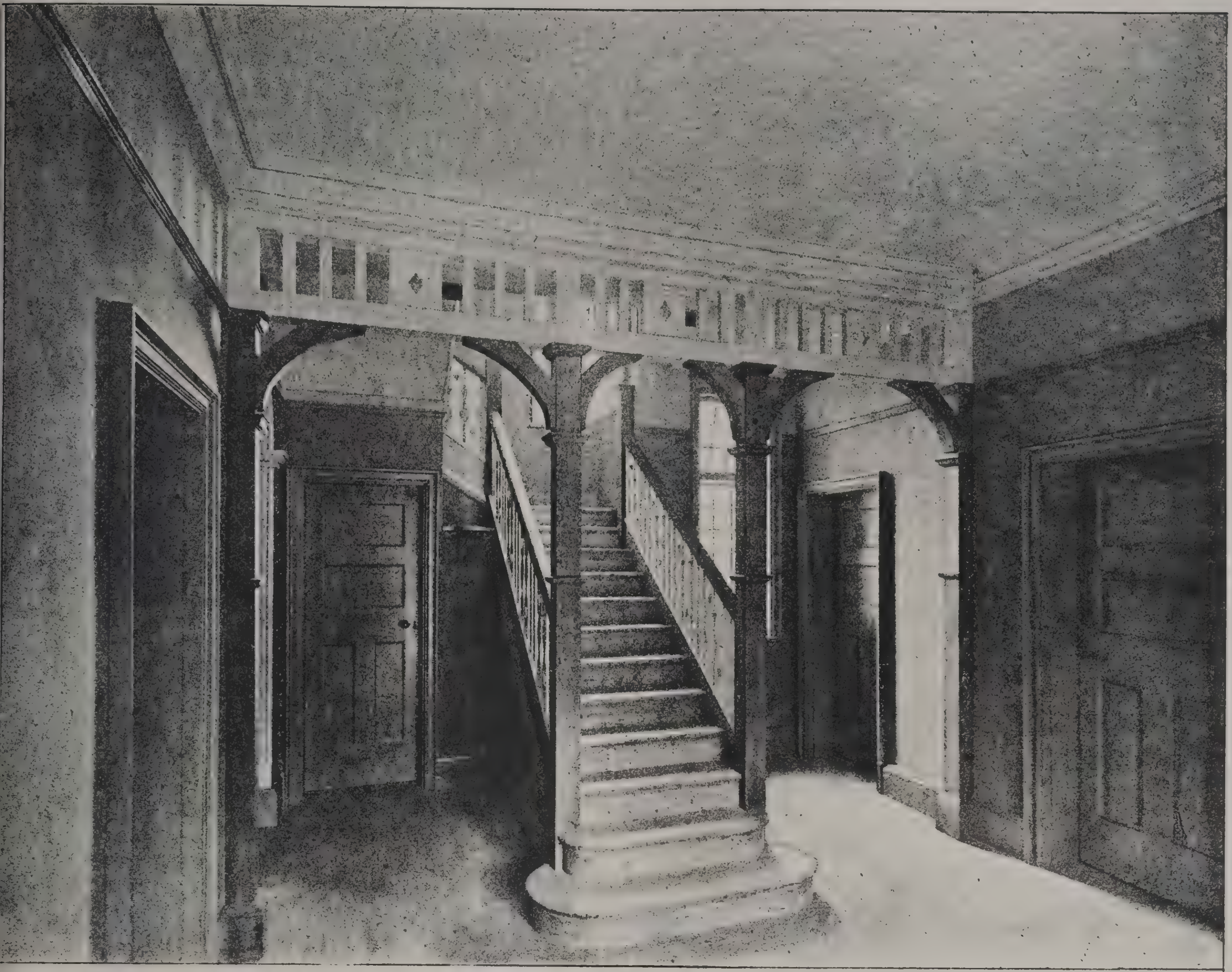
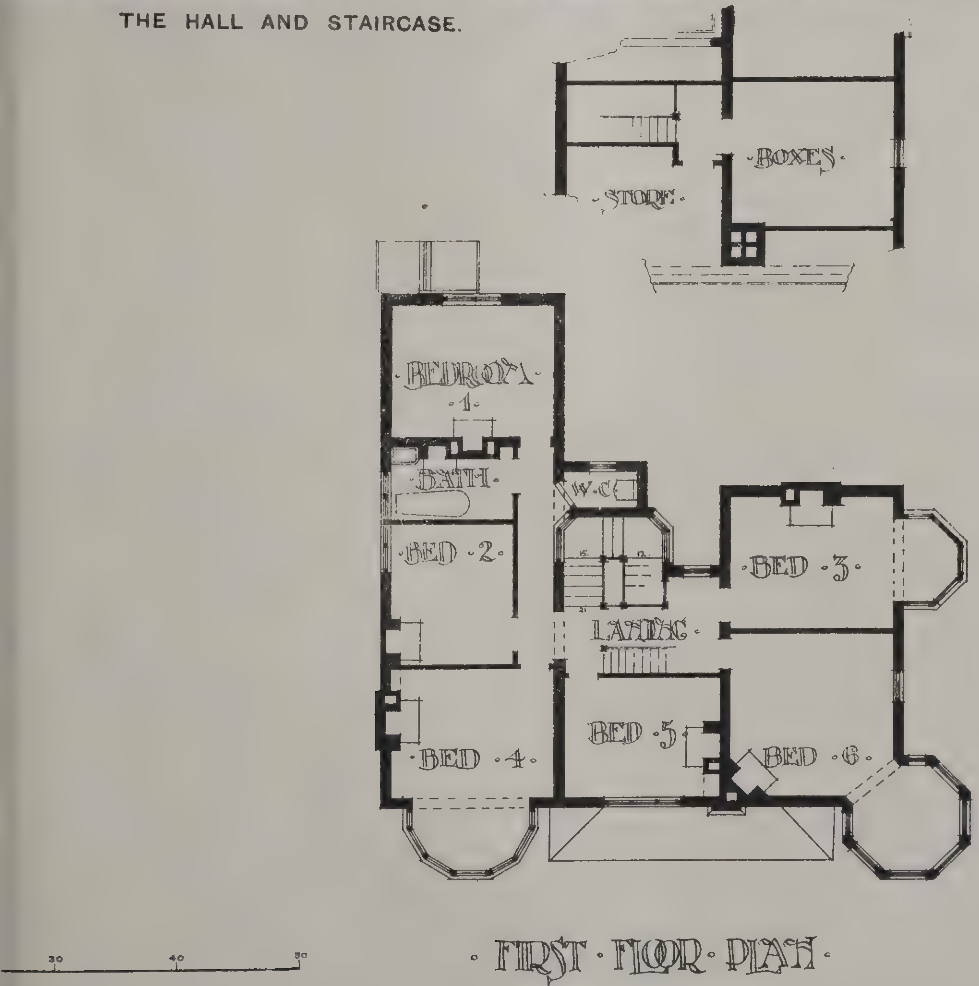


THE HALL AND STAIRCASE.



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LETCHWORTH, HERTS.

, Architect.

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The Architect.

THE WEEK.

From the abstracts of the proceedings before the Irish Master of the Rolls respecting the Milltown Collection, it might easily be imagined that the Countess of Milltown had changed her mind and was no longer willing to surrender the works of art she possessed to the National Gallery of Ireland. Her ladyship was justified in delaying to make over her gift. The collection is of great value, for it consists of 223 pictures, 48 pieces of sculpture, 32 engravings, 50 miscellaneous art objects and 528 pieces of silver. Its money value is supposed to be at least 100,000*l*. The collection was to be kept separate and arrangements made to have it recognised as a memorial of the late Earl of Milltown. The Countess, being eager to enrich Ireland and to show a good example to other possessors of works of art, was induced to enter into a deed of gift. As the rooms in the gallery were inadequate, Parliament voted a sum of 20,000*l*. for the erection of additions. The Countess was disappointed at the character of the receptacle for her paintings. But in order that it might not be supposed that her refusal to send the collection to such a place was a mere whim, an architect was employed to report upon the rooms. He objected to the dimensions of them, to the risks incurred through the heating apparatus, the position of the dado rail and other obvious defects, by which the additions became inadequate, insufficient and unsuitable for the reception, installation and exhibition of the collection. Her ladyship even offered to pay the whole expenses of fitting up one of the rooms in the way desired in order to give a practical lesson to the governors and guardians in the manner of getting up an attractive gallery. The governors endeavoured by blarneying to overcome her objections, but her ladyship stood by her architect's proposals. One of the ceilings was actually covered with brown paper. According to English law, anyone who makes a deed of gift cannot at the same time retain the gift. The Master of the Rolls considered it would be churlish on the part of the governors not to meet Lady Milltown's desires. But still they had the power, and an order was made requiring the delivery on March 1 and subsequent days.

The advantage of an arbitration clause in a contract deed was exemplified in the case W. Guthrie & Co. *v.* McMurray's Royal Paper Mills, Ltd. The plaintiffs, who are contractors, of Glasgow, sought to recover 1,200*l*., balance of an account for rebuilding the mills after a fire. The defendants had paid 650*l*. into Court. Judge Walton found that 860*l*. was owing to the plaintiffs, and the judgment was therefore for 210*l*. Yet the hearing of evidence and the addresses of counsel relating to so small a sum occupied the Court for no less than eight days. If the case had been brought before an arbitrator of experience the hearing need not have occupied more than a day, but as the case was to be heard in a Court details were explained at a length which would be unnecessary with an architect or an engineer. The engineers for the defendants were Messrs. Hancock & Dykes, and in his evidence Mr. Dykes declared that the specification was the only one which had ever left their office without having an arbitration clause in it. The excuse was that it was prepared in a hurry by Mr. Motion, the surveyor to the work. Mr. Motion said that his first estimate for the works amounted to about 15,000*l*. Then the defendants proposed to do only a part of the work, and the estimate was reduced to 11,000*l*. Subsequently it was twice reduced, and eventually Messrs. Guthrie's tender of 5,203*l*. was accepted. It was arranged that the bricks in the old mill were to be used, and the contractor was told there were plenty at his disposal. They were, however, insufficient in quantity and new bricks had to be employed. The question at issue was, therefore, what price was to be paid for the new bricks together with the incidental expenses for cartage, stacking, hodding, &c., as well as the profit on such work. Messrs. Guthrie claimed 15 per cent. Defendants considered 10 per cent. would be sufficient, although one witness admitted that in some cases 20 per cent. on labour was allowed. A case of the kind must have been the cause of much labour to the judge, and under the circumstances it is difficult to say on what basis the amount in the judgment was arrived at.

The Incorporated Institute of British Decorators was founded on January 21, 1899. Its objects are (*a*) to admit within its fold only those who by training, experience and standing are worthy members of the craft, so that membership of the Institute shall create public confidence in all those decorators who are its members ; (*b*) to promote and encourage whatever may tend to elevate the art or craft of decoration, and to afford opportunity for intercourse and discussion ; (*c*) to frame regulations, to adopt a standard of workmanship and to collect and disseminate professional information for the service and benefit of members ; (*d*) to improve the technical and general knowledge of persons engaged in or about to be engaged in decorative work by lectures, classes and other means. The Council have arranged to give a gold medal annually for (1) executed decorative work of notable excellence, (2) published work of conspicuous value to decorators, or (3) scientific invention or improvement in the manufacture of pigments or other materials used in decoration. Silver medals will also be awarded to students who show the best general knowledge of the principles of architecture in relation to design, and to students submitting the best scheme of coloured decoration as applicable to the interior of some existing building. The gold medal will be open to Great Britain, Ireland, Canada and the British Colonies, and will be given by a special vote of the Council. The rules have been issued and may be obtained from the secretary. The Institute, if supported, is capable of rendering useful service to industrial art.

A vendor of land who lays out his land in plots abutting on certain roads marked on a plan, and who sells off all the plots subject to identical covenants, can neither deviate from the plan nor release the covenants. But this rule does not apply if there is no intention shown to sell all the plots at once, and if the covenants and conditions of conveyance of the various plots are not the same, because this negatives any intention to make what has been called "a general law" for the whole estate ; and certainly it cannot apply if the vendors expressly reserve to themselves the right of dealing as they please with any property remaining unsold. These considerations were quite sufficient to dispose of the contention of the plaintiff in the case of Whitehouse *v.* Hugh. In that case the plaintiff had become the owner of certain plots which formed part of an estate laid out under a building scheme. On the plan annexed to the conveyance the plots adjoining were shown as a vacant space which was sometimes used as a road. But the conveyance contained the term that the vendors reserved to themselves the right to alter the plans and conditions of sale. The vendors conveyed these plots to the defendant, who built upon them. The plaintiff claimed to be able to restrain him from so doing, on the ground that this act was an infringement of the building scheme under which he had purchased. Kekewich, J., held that he could not succeed (1) because the vendors had expressly reserved to themselves the right to alter their building scheme, and (2) because the mere fact that the vacant plot was sometimes used as a road was no sufficient evidence that the space had been so dedicated to the public that it could not be built over.

THE GALLERY OF APOLLO AT THE LOUVRE.

Among all the galleries in the Louvre, there is not one which makes so peculiar an impression on the visitor as the gallery of Apollo. In all seasons of the year it is attractive. English visitors who have crossed the Channel for a few days at the present season will acknowledge that it is as cheerful on a dull day as on one in June. In the other galleries the visitor is attracted by their contents. The Salon Carée, for instance, contains pictures which in the market would realise a far higher price than the contents of the cases in the gallery of Apollo. Other galleries have also their special admirers who give them preference. The beautiful objects which are found in the gallery of Apollo are well deserving of study as well as of admiration. But they receive from the majority of visitors little more than a glance. The gallery itself summons attention from its contents. The sculptured ornaments in the upper parts, the figures of French masters on the walls, the noble picture on the ceiling by Delacroix, the painting and the gilding, form an ensemble which is unique. On a December day the impression it makes overcomes the cold and the gloom, and on leaving it the rest of the Louvre seems to be chilly.

The *Galerie d'Apollon*, like other parts of the Louvre, is not without its history. It owes its origin to Henri IV. When he came to the throne there was a terrace covered by a roof, which Catherine de Medicis had formed in imitation of those with which she had been familiar in Italy. It was the favourite promenade of her son, Charles IX., and it is there he may have contemplated the Massacre of St. Bartholomew. Henri IV., instead of the terrace, built the gallery. The architect he employed is generally supposed to have been Androuet du Cerceau, who, like the king, at one time was a Huguenot. The Louvre, however, has been subjected to so many modifications, Du Cerceau's connection with this part of it is debated. It is also supposed that the gallery, including the ceiling, was adorned by the painters Du Breuil, Porbus and Bunel. Between the windows were introduced life-sized portraits of the kings of France from the time of St. Louis to Henri IV. Bunel, who was assisted by his wife, executed that part of the work. It would be easy for them to have adopted the system employed in Holyrood Palace, and through the agency of the imagination and by vulgar models to have produced figures which would serve as portraits for the multitude. Jacob Bunel was an artist of character as well as of ability. He was employed at Fontainebleau, and some of the works which are now attributed to Primaticcio were probably produced by him. He travelled long distances in search of portraits of the kings as well as of ancient costumes, the latter being required especially for the portraits of men who assisted the kings in their government. The works have all vanished. But it is satisfactory to know that in the sixteenth century the iconography of the Louvre was not confined to figures of kings and queens. The portraits of artists in the gallery are no more than a continuation of an older practice. The collection was open to one objection—from the variety of the costumes there was an absence of unity which is desirable in the decoration of a building. The interesting paintings were destroyed by fire in 1661, and there is no engraving existing which will suggest their appearance.

After the fire the ruins of the gallery were neglected. Marie de Medicis did not care for the Louvre, and preferred to erect the Palace of the Luxembourg. The Louvre was given over to a varied collection of occupants. But when Louis XIV. was able to exercise full power he resolved to restore the palace. His artist-in-chief was Le Brun, and he was entrusted with the re-creation of the gallery. Although he was himself a painter, Le Brun was eager to gratify the wishes of his master by the occasional employment of other varieties of decoration. Figures that appeared to be almost detached from the background, and which were made in some kind of hard plaster, were then coming into fashion, and Le Brun recognised their suitability for what we may call the cove of the ceiling of the gallery. There figures of men, women and animals were mixed up with architectural details and painted panels. Gilding was largely used, and the figures served to connect the framing of the paintings on the ceiling with the walls. Strictly speaking, it appeared too restless for a part of architecture; but it infused a desirable animation which was in keeping with the paintings. The majority of the figures were modelled by Girardin, who was one of the ablest of the French sculptors. He succeeded Le Brun as director of all the works in sculpture.

Le Brun, as a matter of course, undertook the painting of the ceiling and of the panels. On the ceiling he represented the Sun God in his chariot surrounded by Aurora, the Seasons, and Night. Elsewhere he made Evening his subject, and also the Triumph of Amphitrite, the last being one of the most successful of his works. The painter died in 1689, and the works were suspended for a time throughout the Louvre. The gallery was used for the exhibition of paintings. A collection of plaster casts was placed in it for the benefit of students of art. Finally it was converted into a series of studios. It was not until 1764 that a change was made, and it was assigned to the Academy of Painting as an exhibition gallery. It was also decided that for the future whenever an Academician was elected he was to undertake to produce a painting which would be placed in one of the numerous vacant compartments of the ceiling. This plan was not of much advantage, for in seventeen years not more than four pictures were obtained. They represented the Four Seasons, and were contributed by four artists whose names are unknown out of France, viz. Lagrenée the younger, Taraval, Durameau and Callet.

The Revolution was not favourable to the preservation of the Louvre. The gallery of Apollo was useful for exhibitions; but at that time it was never open for more than a month, and occasionally the exhibition was only held every second year. The abolition of the Academy of Painting and the opening of the exhibition to all artists had the effect of bringing together a large number of paintings. Napoleon could not be considered a patron of the arts unless when they served for his own glorification. But he wished to imitate his predecessors on the throne of France by having works carried out in the Louvre. In 1805 Percier and Fontaine were ordered to prepare plans for the restoration and extension of the Louvre, of which the National Library was to form a part. All the artists and scholars who were tenants were evicted, some compensation being granted to them.

The gallery of Apollo did not enter into the first part of the project which Napoleon desired to realise. Owing to neglect, Le Brun's paintings were so affected by the damp that the subjects could not be realised. Through the same cause the plaster ornaments became detached, fell on the ground and were broken. In 1826 it was decided that efforts should be made to secure the roof and preserve as many of the ornaments as possible. The works were entrusted to Fontaine, and it was supposed that he was able to make the gallery as sound as when originally constructed. He may have succeeded, and probably the defects should be charged to the original builders. But in 1848, or only twenty years afterwards, the whole of the vault had to be taken down under the direction of Duban. Then it was that new ceiling paintings became necessary, and the splendid work by Eugène Delacroix, *The Triumph of Apollo*, was specially executed. It represents the victory over the serpent Python, and occupies the same compartment in which Le Brun proposed to represent the god. Charles Muller represented Aurora from a sketch left by Le Brun. The name of Le Brun will always be associated with the gallery, for it is believed that it now presents the appearance which he desired.

SOME RECENT CASES UNDER THE WORKMEN'S COMPENSATION ACT.

By a Barrister.

THREE recent cases have gone some way to defining the terms "railroad," "engineering work" and "factory," as used by the Act. In the case of Adams *v.* Shaddock the facts were as follows:—A telephone company was engaged in laying telephone wires across a street along which ran the up and down lines of an electric tramway. In order to do this it was necessary to dig a trench in the road at right angles to the tramway. The wires were laid in this trench. They were then carried under the down line of the tramway by a tunnel, then in a trench dug between the up and down lines, and again through a tunnel under the up line of the tramway. A workman while engaged in making the tunnel under the down line of the tramway was killed by a tram. The Court of Appeal (Romer, L.J., dissenting) held that the workman was employed on, in or about an engineering work within the meaning of the Act, because, according to the Act, engineering work includes any work of construction, alteration and repair of a "railroad," and a railroad, it has been held, includes a tramway. The difficulties in arriving at this decision, which the Master of the Rolls admitted he had not gone through with any great certainty, are two in number:—(1) The workman was employed, not by the tramway company, but by the telephone company; and (2) he was employed, not to alter, repair or construct a railroad, but to lay telephone wires. The majority, however, considered that the governing principle of the Act was to give compensation to all workmen who were exposed to special risks by reason of the nature of their occupation. That being so, it is clear that this workman, who was employed in or upon the tramway, was in exactly the same position as a man employed by the tramway company to repair the rails; and, taking the term railroad in its popular sense, the space between the two sets of rails must be included, so that work upon that part of the road over which the rails were laid, and also the part of the road between the rails, is work *in* or *about* the structure, alteration or repair of a railroad. On the other hand, Romer, L.J., laid more stress upon the words "*construction, alteration or repair*" of a railroad; and from this point of view the workman's employment was clearly not an employment in or about a railroad, since he was employed on work which had nothing to do with the tramway except in so far as the *locus in quo* of the work was physically upon the same soil as that which was occupied by the tramway. If Romer L.J.'s solution were accepted, an intelligible principle would be laid down for future cases of this nature. If it is not, it is difficult to see where we can draw the line. Would not any ordinary scavenger be entitled to compensation if he was knocked down and killed by a tram while engaged in sweeping that part of the line over which the tram-rails were laid? On the other hand, he would certainly not be entitled to compensation if he were knocked down and killed by an ordinary cart. We imagine that scavengers, who had families to provide for, would consider that employment upon a road along which tram-rails ran was far more advantageous than employment upon ordinary roads. No doubt the governing purpose of the Act must be considered in interpreting its clauses; but it must not be allowed to control the specific words of those clauses, and it must not be allowed to extend them unduly. We think that Romer L.J.'s decision is the preferable decision because it adheres more closely to the words of the Act, and because the opposite decision, by giving an undue extension to those words, will, in our opinion, raise more questions than it solves.

In the case of Spacey *v.* Dowlais Gas and Coke Company, a workman was employed in making a trench in a roadway, in which one of the gas company's mains was laid, in order that the main might be repaired. While so engaged a stone flew up and injured his eye. The gasworks themselves were distant about a quarter of a mile from the place of the accident. These gasworks were a factory within the meaning of the Act. The workman claimed that he was employed on, in or about a factory, and that he was therefore entitled to compensation. The Court of Appeal held that the case fell "outside the utmost limits which could be assigned to the meaning of these words." A factory is a place where an article is produced. The main is merely an instrument of distribution. This decision is clearly and obviously right; but looking at this case in connection with the case of Adams *v.* Shaddock, upon which we commented above, we ask ourselves, Suppose the workman had been engaged in picking up the roadway between tram-rails to get at a gas main, and had been injured by a similar accident, could he have recovered? It would be difficult to see any answer to his claim if the reasoning of the majority of the Court of Appeal in that case is correct. To our minds this seems to illustrate the uncertainty and arbitrary nature of the distinctions which could be introduced between cases where a right to compensation exists and cases where it does not, if that decision stands.

In the case of Rogers *v.* The Mayor, &c., of Cardiff, the facts were as follows:—The plaintiff was employed by the defendants upon the repair of overhead electric wires by means of a tower-waggon. While proceeding on the tower-waggon, from one part of the system to another, in order to effect another repair, the horse took fright, and the plaintiff was thrown from the conveyance and injured. The question to be decided was whether the plaintiff was engaged on, in or about an engineering work. The defendants argued that the man was not so engaged unless he was actually engaged in the work of repair at any given point on the system, and that therefore, as the accident occurred in the course of transit between these two points, they were not liable. The Court of Appeal had no difficulty in deciding that this contention was unfounded. The area of the engineering work upon which the plaintiff was engaged was the tramway as a whole, and he was clearly employed on that work when the accident occurred. "He was employed," said Mathew, L.J., "within the limits of the engineering work indicated by the responsibility which was upon the undertakers, and was injured within those limits, and came within the provisions of the Act.

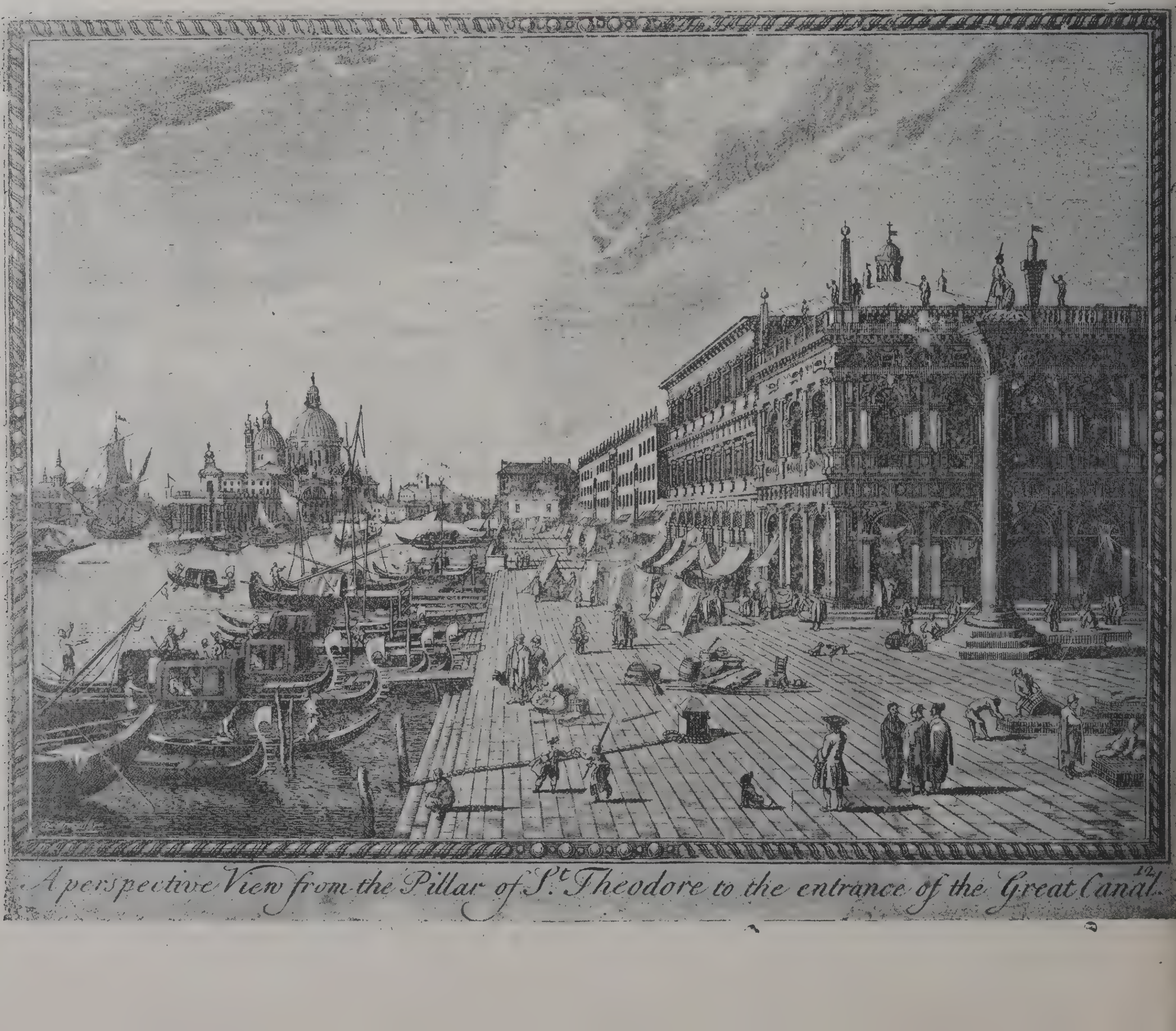
The case of Osmond *v.* Campbell & Harrison, Ltd., illustrates the working of the clauses which provide for the mode in which the compensation payable under the Act is assessed. The applicant in this case was the widow of the deceased workman. The total earnings of the deceased in the three years preceding his death were 155*l.* He had no other source of income. The widow was mainly dependent on her husband's earnings, though she occasionally earned small amounts by doing washing, which amounted on an average to 1*s.* 10½*d.* a week. The County Court Judge awarded 150*l.* by way of compensation. It was contended that this was erroneous, because no account had been taken of the cost of the deceased's maintenance; that the amount awarded ought to have been proportionate to the injury to the defendant, and that therefore the cost of such maintenance should have been deducted. The Court of Appeal, without calling on the counsel for the widow to argue, dismissed the appeal. The first schedule to the Act provides that (1) If the workman leaves any dependants wholly dependent on his earnings, they are entitled to a sum equal to his earnings in the employment of the same employer during the three years preceding the injury, or the sum of 150*l.*, whichever is the larger, but not exceeding 300*l.* Weekly payments already made under the Act are to be deducted; and (2) if the workman leaves any dependants partly dependent upon him they are entitled to such reasonable sums, not exceeding 300*l.*, as may be determined by arbitration. As the Master of the Rolls pointed out, the Act does not provide for any exact appraisement of the loss suffered by the death. "The scheme appears to be that, for the purpose of determining the amount which the employers . . . are to pay, by way not of complete or exact compensation—for that the Act does not purport to give—but of some solatium to the workman injured or his dependants," the rules as to amount provided by the Act must be exactly followed. Any other means which those dependent upon the deceased have may be taken into account, but no other circumstance. If the Act had attempted to give full and exact compensation it would have been necessary to take into calculation such matters as the deceased's expectation of life at the time of his death, the cost of his maintenance and such like matters. The Act does not attempt this. It has laid down a hard and fast rule which must be followed in each case; and therefore such considerations as might be proper to take account of, had the Act attempted to give full and exact compensation, are out of place.

CANALETTO'S VIEWS OF VENICE.—XXII.

THE Venetians were proud of the palace of their Doges, yet when in the sixteenth century it was resolved to erect a library on the other side of the Piazzetta, which was to serve as a pendant to the old building, they did not hesitate about the adoption of a different style. There are some men who pose as legislators in architecture, who consider that uniformity is one of the foremost virtues in building, and they would have carried Gothic arches all round the piazza of St. Mark's. According to Mr. Ruskin, the palace is an epitome of Venetian Gothic. But the men of the sixteenth century knew that the wonderful arches were only a couple of centuries old, and that the style was not native to Venice, for it had superseded the older and more germane Byzantine. The Venetians recognised that architecture was doomed to change like much else, and they may have realised the effect of so admirable an example of modern work as Jacopo Sansovino was able to give them.

Vasari, who was an architect, tells us that the library caused "a notable change in the mode of building at Venice, for while it was the custom for all houses and palaces to be erected after one old fashion without any variation, either on account of the difference in site or for the sake of convenience, they now began to build with new designs in a better manner and with some attention to the rule of Vitruvius, whether as regarded their public or private constructions." Palladio considered that no more beautiful example of building had been raised in Italy since the fall of Rome than Sansovino's library. According to Vasari, the best judges who had visited many other parts of the world declared it to be without equal. Aretino described it as "above envy." But with all their admiration for the library the Venetian authorities meted out rigorous justice to the architect when one of the ceilings collapsed, cast Sansovino into prison, ordered him to pay a fine of 1,000 ducats, and, severest punishment of all, deprived him of his office of Proto-master, or principal architect. Through the efforts of Titian and Aretino he was released, and 900 of his 1,000 ducats were refunded to him.

The imitation of the library as a Pall Mall clubhouse has been only partially successful. In the arrangement of the original the great length of the arcading was an element which received consideration, for the building extended along one side of the Piazzetta, where it joined the Loggetta at the foot of the Campanile. The frieze of the Venetian building is of unusual depth, but it was necessary to open windows in it to light the upper chambers. Sansovino was a sculptor, and it



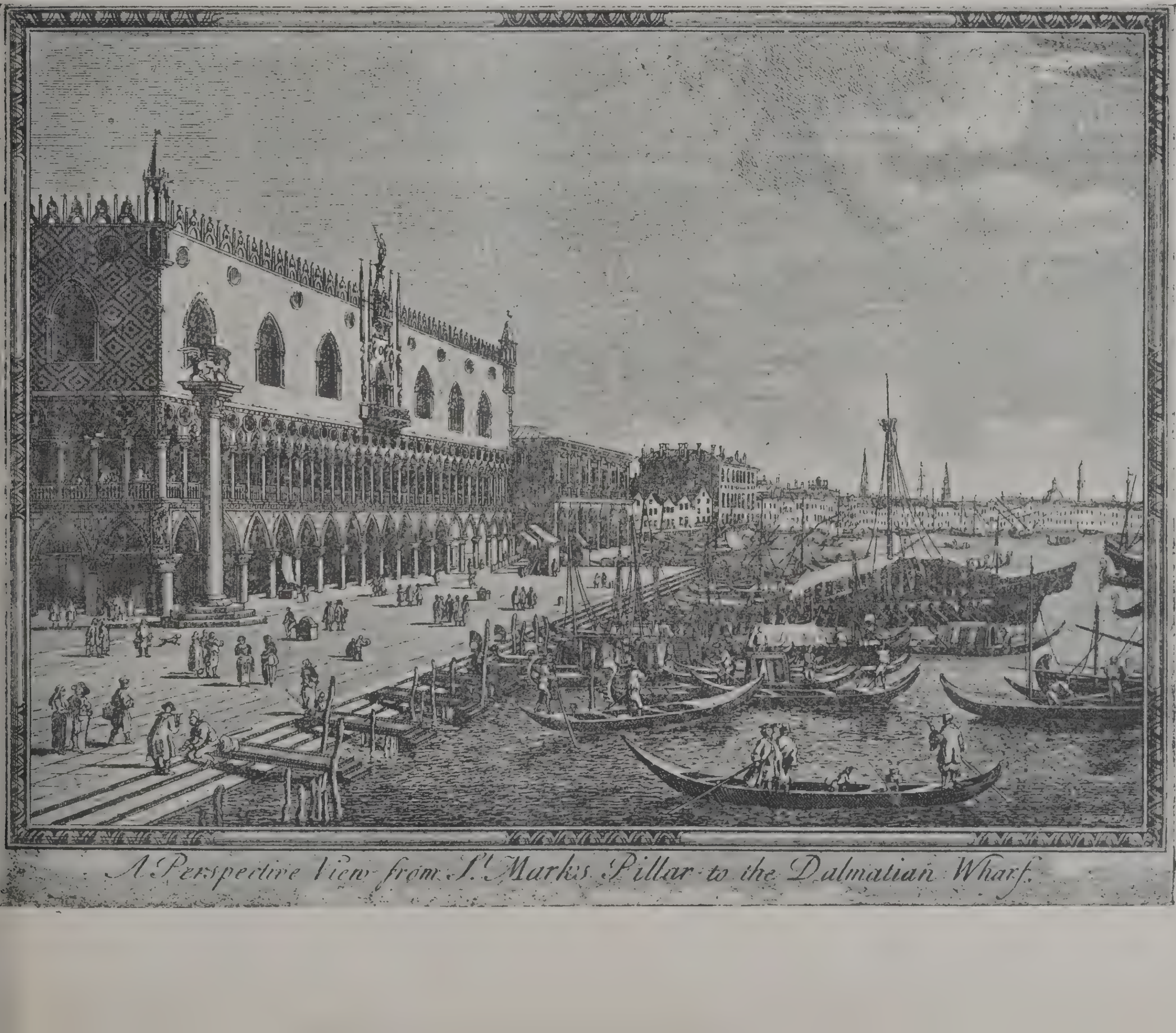
A perspective View from the Pillar of S^t. Theodore to the entrance of the Great Canal. 12

was to be expected that he would apply that art for the adornment of his library. However, the abundance of figures and ornaments has been condemned by some critics, and especially by Mr. Fergusson. There is, he says, "a quantity of sculptured ornament, figures in the spandrels, boys and wreaths in the frieze and foliage elsewhere, which not only is not construction but does not even suggest it. If all this were omitted the building would be relieved from that confusion of parts which is one of its principal defects; or, if enrichment were necessary, more conventional architectural ornament would have obtained the same end, and if it could have been made to suggest construction, so much the better." In order to find more room for his ornament, Sansovino enlarged the metopes on the ground storey. The building was never much used as a library; the manuscripts, early specimens of printing and maps were, and still are, kept in the Doge's Palace. The treasures were so valued that members of the noblest families in Venice, some of whom afterwards became Doges, were proud to hold the position of librarian. Sansovino's building has, since the fall of the republic, formed part of the Austrian, and later of the Italian palace, and the rooms have sometimes served for exhibitions.

Next to the library, facing the quay, is another building of Sansovino's, the Zecca or Mint, which was an early example of a fireproof construction, for no wood was employed in it. Vasari considered there was no such treasury elsewhere. A part of it is now used as a shipping office. Beyond the Zecca the ground is utilised for the royal garden. Across the lagoon is seen the Dogana and the church of Santa Maria della Salute, which have been already illustrated. Near the library is the granite column supporting the figure of St. Theodore.

In his other view Canaletto introduces the companion column, which is surmounted by the winged lion of St. Mark. It is more in keeping with the palace than the other column is with the library. The pillars in the lower arches of the Doge's Palace now appear to be more stunted than they are shown in the etching. But it should be remembered that the mole or quay has been raised since the time of Canaletto. He takes care to avoid indicating bases. The spandrels of the arches appear too plain, especially with such elaborate capitals near them, but it was intended that they should be filled with marble inlaying. Above is the beautiful arcade with elaborate tracery, which is the part of the palace which has received most admiration. The upper storey shows a facing of marble, partly of red Verona, Istrian, verd antique, &c., arranged in geometrical patterns. Brick is not visible on the exterior, but there is no doubt it was used in all the main walls. It was mainly because brick was used in the palace that Mr. Ruskin recommended the brickfield as the best academy for English architects, for, as he said, until they know how to use clay they will never know how to use marble. Interesting as the upper part of the palace is, it is believed in Venice that a different storey was intended to be constructed as soon as circumstances allowed. The columns, especially those on the lower storey, are of great interest on account of the number of subjects employed for them, including several symbolic figures in addition to foliage. At the angles are large groups representing the Fall of Man, the weakness of Noah, and the Judgment of Solomon.

Who was the architect of the building? The edifice we now see (including the interior) must have taken about three centuries to complete. In 1300 there was a commencement with the part of the front nearest to



A Perspective View from S.t Marks Pillar to the Dalmatian Wharf.

the prison. From various motives a part of the earlier palace, of which Sebastian Ziani was architect, was preserved. Whether the new work was considered less satisfactory than the old is not plain, but an edict was passed by the Council which imposed a fine of 1,000 gold ducats on anyone who attempted to interfere with the remaining parts of Ziani's palace. The Doge Mocenigo in 1422, having resolved to continue the rebuilding, paid the fine, and to him is owing the part immediately adjoining the basilica of St. Mark's. The building was continued at various times until almost the close of the fifteenth century. It is sometimes stated that the fourteenth-century work was carried out by Philippo Calendario, of whom it is related that he was one of the conspirators with Marino Faliero. According to one legend he was hanged upon the balcony of the palace which he designed. There was a conspirator of that name who was executed, but there is no evidence to prove that he was the artist.

The palace is separated from the prison by the Paglia Canal, the means of communication between the two buildings being a covered gallery known as the Bridge of Sighs. The prison was erected in the sixteenth century from the designs of Giovanni de Ponte; and here we see another instance of the Venetian indifference to uniformity, for the building is in the style of the period. The illustration shows the continuation of the quay which forms the curved Riva degli Schiavoni.

In concluding the series of Canaletto's etchings we have to acknowledge our indebtedness to Sir Thomas Drew, P.R.H.A., for the use of the originals.

WAKEFIELD CATHEDRAL.

See Illustration.

The plan published this week completes the illustrations of Wakefield Cathedral. The extensions, which have been carried out under the direction of Mr. F. L. Pearson, include an enlargement of the choir, a retro-choir and a chapel, the latter being a continuation of the retro-choir. Beneath the new work is a chapter-house, vestibule, a vestry for clergy and another for the choir. This lower part is approached by a staircase from the north transept. We have already given so many particulars concerning the history of the church, it is unnecessary to go into further details about its adaptation to cathedral purposes.

An illustration is given of the memorial of the first Bishop, Walsham How, which is the work of Mr. Forsyth. The position will be seen on the plan. William Walsham How was recognised for many years as one of the most active of the clergy of the Church of England. A native of Shrewsbury, where he was born in 1823, he was earnest in carrying out parochial work. A writer as well as a preacher, his sphere of influence extended over England. Preferment was offered to him, but as he was satisfied with parochial work he declined to change. The project to improve the condition of the people in the East End he could not resist. He was appointed as Bishop of Bedford, but his work lay in what was considered to be the worst district of the Metropolis. There his capacity for organisation was fully tested, and he devised new arrangements in order to overcome the indifference of the people. He laboured for nine years in East London, and then a fresh field of activity was opened for him as first Bishop of Wakefield. During another period of nine years he toiled in Yorkshire with no less success. As a prelate he was unpretending, but he possessed power which was recognised, and it was impossible not to feel the purity of his motives in all he did.

NATIONAL AND PORTRAIT GALLERIES.

The latest additions to the national collection at the National Gallery of British Art, Millbank, are :—

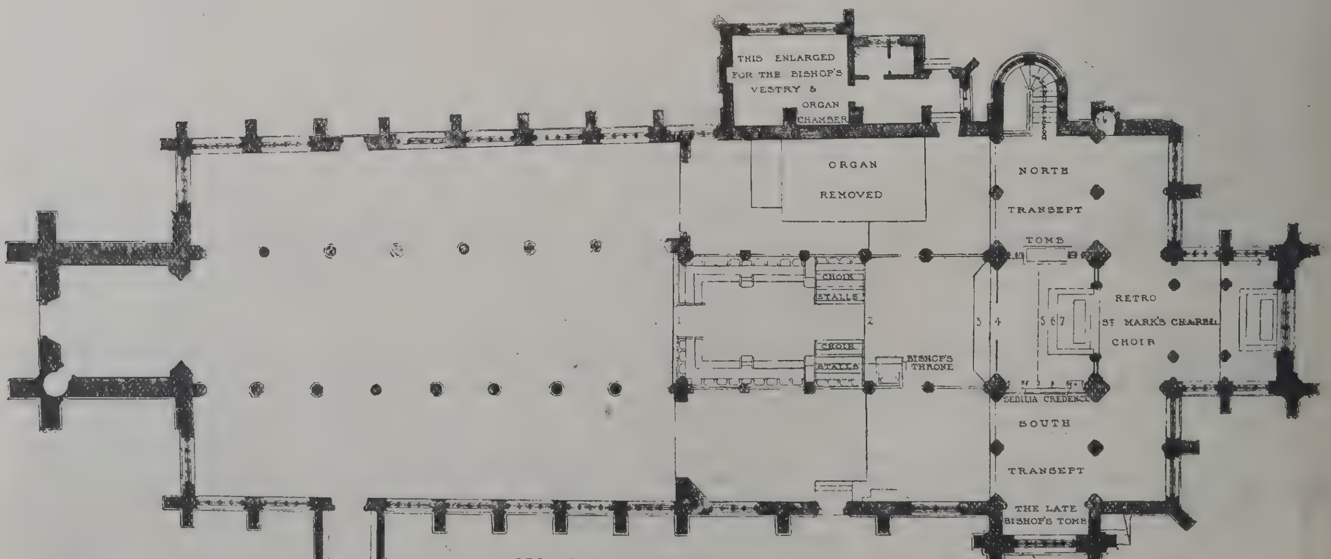
"Dutch East Indiamen Weighing their Anchors," by George Chambers, hung in Room I.; "An Incident from Gil Blas," by Frederick Yates Hurlstone, hung in Room III. Both these works were purchased by the Trustees.

Twelve drawings and pictures have been bequeathed by Mr. Charles Fraser and are now hung with one exception in Room VI., namely :—"A Greek Captive," by Henriette Browne; "A Man's Head," "A Peasant Girl," "A Fruit Piece," "A Water Carrier" and "Apples," all by William Hunt; "The Shrine of Edward the Confessor," by David Roberts, R.A.; "Cow and Sheep," by Thomas S. Cooper, R.A.; "Cottage at Hambledon," by Myles Birket Foster; "A Street in Antwerp," by Samuel Prout; "Dragoons on the March," by Frederick Tayler; and "Boat: near Venice," by Edward W. Cooke, R.A., hung in Room III.

The following pictures have been purchased by the trustees of the Chantrey Bequest:—"The Morning of Sedgemoor," by E. Bundy (lent to Liverpool); "The Black Mountains," by J. Aumonier (lent to Wolverhampton); "The Return from the Ride," by C. W. Furse, A.R.A. (lent to the Royal Society of Artists, Birmingham); "St. Agnes in Prison," by F. E. Cowper (hung in Room XIII.); "The Alcantara, Toledo," by H. Speed (hung in Room XIII.); "Peacock and Python," by E. Alexander, A.R.S.A. (hung in Room VI.).

The following acquisitions have recently been made by the trustees of the National Portrait Gallery :—

Through the kind consideration of the Hon. Mrs. Vaughan Johnson the trustees have been enabled to acquire by purchase the original portrait of William Cowper, the poet, drawn in crayons, by George Romney, while on a visit to William Hayley at Eartham in August 1792. This portrait



GROUND PLAN.

was bequeathed by Hayley to the poet's kinsman and biographer, the Rev. John Johnson, LL.D., with whose descendants it has remained till now.

The trustees have also acquired by purchase the following portraits:—Admiral Sir John Harman (1625 (?)-73), distinguished in the naval wars of the seventeenth century, painted by Sir Peter Lely; Richard Graham, Viscount Preston (1648-95), statesman, diplomatist and adherent of James II., painted by Sir Godfrey Kneller; Charles Talbot, Duke of Shrewsbury, K.G. (1660-1718), Secretary of State, diplomatist and Lord Chamberlain, painted by Sir Godfrey Kneller; John Joshua Kirby (1716-74), artist, writer on perspective and president of the Incorporated Society of Artists, painted with his wife, Sarah Bull, by his friend, Thomas Gainsborough, R.A.

The trustees have accepted as donations to the Gallery a portrait of Sir Cyril Wyche, P.R.S. (1632 (?)-1707), painted, perhaps, by John Michael Wright, and presented by his lineal descendant, Mr. Cyril Wych; and a large portrait bust of the Right Hon. Henry Fawcett (1833-84), politician and political economist, modelled by Mr. H. R. Hope-Pinker and presented by the artist.

The trustees have also accepted as a bequest from the late Captain George Bramwell portraits of Charles Abbot, first Baron Colchester (1757-1829), Speaker of the House of Commons, painted by John Hoppner, R.A.; and of Owen MacSwinny (died 1754), dramatist and theatrical manager, painted by Peter Van Bleeck.

These portraits will be placed on view in the galleries as soon as the trustees have sufficient funds at their disposal for this purpose.

TESSERÆ.

Building in Roman Towns.

SOME surprise may be felt at the expense lavished so prodigally on public buildings in the inconsiderable towns of Italy. But the Romans lived in public, and depended on the public for their amusements and pleasure. A Roman citizen went out early and did not return home until the evening repast; he spent his day in the forum, at the baths, at the theatre—everywhere, in short, except at his own home, where he slept in a small room, without windows, without a chimney and almost without furniture. Architectural splendour, therefore, both in places of public business and of public pleasure was far more studied and of far greater importance than it now is, and money, both public and private, was lavished upon such purposes with a profuseness far more than commensurate, according to modern notions, with the objects to which it was directed. We may add, to explain the motives which induced individuals to bestow their money so freely in increasing the splendour of their city, that there was no surer road to power and influence, either in the capital or in the smaller sphere of a provincial town, than by gratifying the taste of the people for splendour, either in public buildings or in the amusements of the stage or the amphitheatre.

The Sculpture of Temples.

One of the principal functions of sculpture was to adorn the earthly habitation of the immortal gods—the Greek temple, whose grandeur and harmonious beauty make it one of the greatest achievements of the human intellect. Nor was it only in its earlier stages that plastic art was the handmaid, the tire-woman, so to speak, of architecture; but also in its palmiest days, when it was employed in ornamenting with sculptures the metopes, the tympana and the friezes of the great temple of the Olympian Zeus and of the Parthenon itself, the glory of all succeeding ages. Even the highest aim and achievement of the sculptor—the representation of the ideal human form—was first attained in the service of the temple. To set the presiding deity, in the traditional typical form, before the eyes of his pious worshippers was the loftiest function of the sculptor—a function which gave him a semi-sacerdotal character. The indwelling god of the sanctuary was the intellectual and moral centre from which emanated all its sanctity and consecration. As the temple-statue was generally the object of actual adoration—an idol in short—the artist who formed it was inevitably restricted by traditional and conventional considerations. The hand of the pious artist would have failed him were he tempted to deviate from the lines which his predecessors had traced, and the feelings of the worshipper would have been wounded by any change in the form, to which frequently a divine origin was ascribed, and which was hallowed by age and the reverential homage of his forefathers. As long, therefore, as the honour of "standing in bronze" or marble was almost exclusively a privilege of gods and heroes, the artist lacked the perfect freedom which is essential to all true art, and from the want of which Egyptian and Oriental art languished in their bonds. To the Greek artist emancipation came from the Panhellenic games at Olympia. An easy transition from the Divinity in human form to the deified man was happily found in the heroic character of the Olympian victor. On the one hand the glorious theme of the hymns of Pindar seemed not unworthy of the divine honour of a statue, and, on the other, the sculptor was fully justified in portraying him with perfect freedom, in all the beauty and strength of his manly form, and in the full and harmonious development of those physical qualities to which he owed his prowess, his victory and his immortal fame. The beneficial influence of this emancipation is seen in the works of Pythagoras of Rhegium, Myron of Eleutherae and Kalamis of Athens.

West Shene Priory.

A priory of Carthusians was founded in 1414 at West Shene, in Surrey (about a quarter of a mile from the old palace at Richmond), by King Henry V., in whose will its endowment is stated at 40 marks. Perkin Warbeck sought an asylum in this house in the reign of Henry VII., and in that of his successor; the body of James IV. was buried at Shene. Stowe, in his "Annals," says:—"I have beene shewed the same body (as was affirmed), lapped in lead, thrown into an old waste room, amongst old timber, stone, led and other rubble." At the Dissolution of this priory (26th Henry VIII.) its annual revenues, according to Dugdale, amounted to 777*l.* 12*s.* 0½*d.*, but Speed states them at 962*l.* 11*s.* 6*d.* In the 32nd of Henry VIII. the site of this foundation was granted to Edward, Earl of Hertford, and although Queen Mary restored the convent, it was dissolved again in little more than a year. Tne seal of these Carthusians, which was small and of an oval shape, exhibited the Adoration of the Shepherds, beneath which were the arms of France and England, quarterly. In the account of Richmond in Lysons's "Environs," it is stated that "an ancient gateway, the last remains of the priory of Shene, was taken down" in 1769. "The whole hamlet of West Shene, consisting of eighteen houses, one of which was a calico manufactory, was at the same time totally annihilated, and the site, which was made into a lawn, added to the king's inclosures." In the Survey taken by order of Parliament during the Interregnum, the old church is described to be standing, "but very ruinous and fit to be demolished," and also a structure of brick, called the Prior's Lodgings; the Monks' Hall, a stone building; the Lady of St. John's Lodgings, the Anchorite's Cell, and an old building and a parcel of buildings called the Gallery.

Norman Winchester.

At the time of the Norman Conquest, Winchester was a place of great importance, but as it was held by the widow of Edward it was not seized by the politic William. After a time he erected a palace which was his resort in spring. It was in Winchester that he was crowned for the second time; there the last of his Saxon opponents—Waltheof, the son of Sigurd—was executed; and it was there the great Domesday roll (from which Winchester was exempted) was approved by the king, and the curfew was first heard. One of William's chaplains—Walkelyn—was consecrated Bishop of Winchester, and he lost no time in undertaking the erection of a cathedral. Bishop Walkelyn must have looked with some contempt on the Saxon cathedral, grand and massive though it was for the times in which it had been built, notwithstanding its being considered small in Norman estimation, and doubtless disfigured by the rough usage of the Danes. He therefore determined to build a new cathedral worthy of the capital of the great conqueror, and accordingly set about doing so at his own cost, using stone from a quarry in the Isle of Wight, whence years after William of Wykeham also brought his materials. As time went on, however, finding that he required a great quantity of wood, he begged the king to give him as much as he could take from the forest of Hanepinges (now Hempage Wood) in four days and nights. To this William consented, and the Bishop having collected all the men he could, the whole wood was cut down in the prescribed time. When the king found that his wood had disappeared he was at first very angry, but eventually forgave the—we may almost call it—practical joke that had been played him.

NOTES AND COMMENTS.

A few weeks since some of the Paris journals were able to startle their readers by giving an account of a *scandale* at the Ecole des Beaux-Arts. So many Frenchmen are assured of the weakness of all the national institutions, a revelation of dishonesty is accepted without much investigation. It appears that the students in the atelier of architecture directed by M. Umdenstock have been of late particularly successful, and in eight instances out of nine were placed in the first position. It was not difficult from that simple fact to devise the machinery of a plot. The unsuccessful students naturally adopted what may be taken as the national formula, "We are betrayed." A journal, in the public interest, undertook to explain how everything was arranged. In the first place, all the drawings from l'Atelier Umdenstock had the titles written in an uniform manner. Could anything be more plain that treachery was at work when it was possible at a glance to recognise fourteen drawings which came from that atelier? It was also declared that M. Umdenstock, accompanied by the secretary of the jury at 8 o'clock of a winter morning, obtained access by a private staircase to the room containing the drawings before the jury assembled. It was easy to conclude for what purpose the two officials made so irregular a visit. Unfortunately for the concocters of the legend, there is no private staircase; the decisions were given by a jury of which M. Umdenstock did not form part, and he did not enter the room containing the sketches until everything was concluded. The Minister of Fine Arts must, however, submit to any outcry; he ordered an inquiry and discovered there was no foundation for the allegation. The scandal-mongers can, however, claim a victory, since it has been decided that henceforth there must be no uniformity in titles or in frames.

Amateur collectors and conservators of museums who calculated on a dispersion of works of art from French cathedrals and churches as a result of the Act of Separation will be disappointed. All works of the kind cannot be touched. In 1887 a law was passed by which it became necessary that a list should be prepared of all movable and immovable objects in the various churches. A new list is to be prepared under the law passed during the present month, which will record all the objects received since 1887. After three years an examination will be made, and any additional works which are considered to be wanting in artistic interest will not be recognised. All the movable objects, stained glass and sculpture will be treated as State property, *i.e.* as historic monuments. Any objects which the departments or communes may be able to claim as belonging to them cannot be removed without authority from the Minister of Public Instruction. Every infraction of the law can be punished by a fine from 100 francs to 10,000 francs, and by imprisonment varying from six days to three months. The prefects are to give immediate notice of an infraction in order that no time may be lost before bringing the offenders to justice.

If British manufacturers are eager to secure colonial trade they must not be satisfied with delivering their goods f.o.b. and trusting to chance for a safe and cheap delivery. We know that British carrying companies both on sea and land are disposed to mulct British productions, and in that way they often become the most efficient agent for our foreign rivals. One instance may now be given. South Africa requires a large quantity of cement, for at the present time building is being carried out to a satisfactory extent. Most of the cement used was, however, produced by Germans. Efforts were made to have a change, and it was supposed that a wide field for British enterprise had been opened. The opposition of the carriers was neglected. British cement costs 15*s.* a ton for delivery, whilst the same ships will carry German cement at 12*s.* 6*d.* a ton. Efforts have been made on behalf of the South African merchants in London, but up to the present there is no abatement. It is of no use therefore in having a preference customs treatment, for any reduction of duty will be met by an increase in the transit rates. A similar method is adopted in other places, and is one explanation of the success of German goods in British colonies. In Great Britain there is no co-operation between the representatives of different industries. And so long as that exists we must expect that obstacles to our colonial trade will be created. In Germany trade is becoming a national affair, and every manufacturer is willing to make sacrifices in order that he may have a share in the general victory.

Since the burning of the South Parade Pier at Southsea, the ruins have been left as if there was no possibility of a new structure. It was owned by a limited company, but they had not the enterprise to make another attempt. Next to the company the Corporation would appear to be the most desirable owners. Negotiations were entered into, but the Corporation would not give more than about 5,000*l.*, which would be the value of what remains of the pier if considered merely as old iron. It is now announced that Mr. J. H. Franckeiss, of Southsea, has offered to pay over to the company 10,250*l.* for their rights, and he will expend 7,000*l.* within nine months in order to obtain a lease from the Woods and Forests Department. The Clarence Pier, Portsmouth, is a successful venture, and in the future the two may be amalgamated.

Another effort is being made by the Further Strand Improvement Committee to obtain an alteration of the frontage line in the Strand which is as yet unoccupied in the vicinity of the Law Courts. Their object is also to prevent the erection of buildings of a height which will overpower the two churches of the Strand and Somerset House. The improvement has been the supreme muddle among all those perpetrated by the London County Council, and no one would be surprised if, after the land was let for buildings and they were partly erected, the unfitness of the line of frontage would be recognised and the buildings taken down and re-erected on the line which alone is suitable. There is still time for agitation, and those who wish to prevent the Strand from further degradation should at once communicate with Mr. Mark H. Judge, the secretary, at his offices, 7 Pall Mall.

Among the paintings which were purchased by amateurs for presentation to the contemplated gallery at Bagatelle was a portrait by Sir Thomas Lawrence, for which 45,000 francs were paid. When the Municipal Council of Paris for some unknown reason decided that the gallery should be closed, the committee lost no time in offering the painting to the Louvre. The authorities have unanimously accepted the gift, and it now hangs on the walls of the Louvre with a work by Turner and another by Lawrence, both of which are the gifts of M. Camille Groult. The absence of a sufficient number of English works from the Louvre has often been remarked. But the prices charged for them are prohibitive. Evidently there is no prejudice against the school, for when good examples are offered, as in the present case, there is no difficulty about accepting them.

ILLUSTRATIONS.

CATHEDRAL SERIES.—WAKEFIELD: EFFIGY OF THE LATE BISHOP HOW (FIRST BISHOP OF WAKEFIELD).

ELECTRIC PARADE, SURBITON.

THE CHEQUERS, ELTHAM, KENT.

THE RISING SUN, HIGH STREET, ELTHAM, KENT.

DESIGNS FOR MANTELPIECES FOR ABBESS GRANGE, HAMPSHIRE.

THE REAL ORIGIN OF THE GOTHIC STYLE.

WHEN the Cambridge Camden Society was founded in order to promote greater interest in English churches, one of the most efficient members was FREDERICK APTHORP PALEY, of St. John's College. He served as one of the secretaries. He was an able classical scholar, and edited many of the works of Greek and Roman authors. He also translated some of the works. For some years he was examiner in classics for London University as well as the Cambridge Tripos. He was, in fact, recognised as one of the soundest authorities on Classic literature in England. As an amateur he took great interest in architecture. He was a brother of Mr. PALEY, who practised in Lancaster, and he aided EDMUND SHARPE in making drawings for some of his works. As the origin of Gothic received much attention at the time, it was to be expected that FREDERICK PALEY would be attracted by the subject, and that he would bring Cambridge methods to its investigation. In the following essay, which few of our readers are likely to have read, it will be seen that he foreshadowed some of the conclusions of EDMUND SHARPE and of later engineers :—

In investigating the causes of a phenomenon of which the results alone are now familiar to our minds and perceptible to our senses, there is a singular tendency to overlook that which ought first to be taken into account, the natural workings and efforts of a nascent art, and to dive deeply into the mystic regions of symbolism and "sacramentality," in other words, to rest upon far-fetched speculations, rather than upon inductions from simple and commonplace facts.

At the present day, when everything connected with the progress, construction and composition of Gothic architecture has been elaborately and patiently examined, no reasonable doubt can be entertained that a great fallacy for a long time possessed the minds of antiquarian inquirers into this subject, and the more tenaciously from its very hopelessness and improbability, viz. that some mighty and sudden discovery, which some enthusiasts have almost dignified with the name of an inspiration, some grand masonic secret, some geometric principle of proportion, yet to be applied as the true key to the interpretation of a lost art, was the soul and essence of Mediæval Catholic architecture. Religion and antiquity had combined to invest it with so deep and mysterious an interest that ecclesiologists were actually unwilling to admit the possibility of such ordinary and unpoetical influences as a mason's difficulties and bungling expedients having driven him perforce to adopt better and more scientific methods of construction than his predecessors had devised. In fine, that which is conceded to every progressive art seemed to be denied to this, the faculty of creating out of itself, and without external aid, the means for its own gradual improvement and ultimate perfection.

The existence of the confraternity of Freemasons, and the known secrecy of their operations, favoured the delusion and fostered the belief that nothing short of superhuman sagacity or good luck would ever explain the real origin and true principles of Gothic architecture.

That this idea is an absurd one, and that even learned and scientific men failed to view the subject in its proper light, either from its own intrinsic simplicity or from their love of mysticism, it will be the object of the present paper to show.

It is possible, indeed, that on this particular subject of church architecture the public are now pretty well tired, the market being completely glutted with architectural books, and almost every respectable periodical of the day having in its turn presented its subscribers with more or less discussion on the same popular topic. Moreover, speculative theories, however interesting to the authors of them, are apt, under any circumstances, to form very heavy treatises; for when set forth with all the affectation of ponderous learning and deep research they deter the reader by their very aspect; while, on the other hand, an inquiry like the present, of humbler pretensions, but destitute of novelty and originality, as this will probably be deemed, is as little likely to obtain the favour of those who look for lighter and more familiar instruction. To the writer of this essay there appears to be so much truth in this view, that no reader can commence the perusal with greater misgivings than he does the composition of them.

It is necessary to premise :—

1. That those buildings only are called Gothic which involve either pointed arches, or the vertical principles which were undoubtedly suggested by them; that these cannot generally be traced to an earlier period than the middle of the twelfth century; and that, in our country, they very rarely appeared until towards its close.

2. That the buildings which were erected previously to this date are all more or less of a degenerate Classical style called Romanesque, of which the Norman is the principal variety known in England.

3. That the leading features of Gothic architecture consist in upward or vertical tendencies, while those of the other consist either directly in the prevalence of horizontal lines or indirectly in the subordination of the vertical.

4. That although the one principle is exactly opposed to the other, nevertheless, the Gothic style arose directly out of the Romanesque or Norman by a perceptible process which it is the object of the present paper to trace.

To some it may appear to be a *prima facie* difficulty that such contrariety should be the distinguishing characteristic of two kindred and consecutive styles. But this is not at all more wonderful than the results we frequently see produced by the workings of the human mind. In all these and a hundred other cases of the like kind not only does the one feeling eventually become dominant, to the total surrendering of the other, but the one is generally produced directly out of the other. A tendency, a modification, a relaxation in the one habit or impulse often grows into a development or ultimate acceptance of the opposite extreme. And when we have discovered the origin of the change, the earliest symptom of giving up the old principle, we look into the cause of the departure, and if we find it permanent, increasing, still urgent in its nature and demands, we are quite certain that it will lead on the tendency, and the tendency will follow it, to its legitimate results, even to a final overthrow and rejection of the former method.

We trust that this brief preliminary statement does not seem dull, pedantic or unmeaning, because it really involves the whole secret, if secret there be, of the formation of the Gothic style. The Romanesque carried out its stubborn system of horizontality for many, many centuries, in the Basilican, the Byzantine, the Norman styles, until at length, sometime in the twelfth, a tendency to relax it was thrown in, perhaps by accident, perhaps forced by circumstances, but certainly acknowledged, accepted and acted upon, the motive being, not the discovery of the pointed arch—nothing can be a greater mistake than to imagine this—but the discovery of the suitableness of the pointed form to the requirements, the now urgent requirements of an enlarged system of church architecture.

Thus some chemical or electrical discovery may have been known to philosophers for centuries, and been regarded by them as perfectly useless and uninteresting, except perhaps as a curious fact, till some one is at length led to apply it. Then suddenly it alters the whole state of the arts and manufactures, and so affects the very civilisation of a vast country in the space of a very few years. It is not too much to say that gas, and steam and electricity have severally and in combination effected revolutions quite as sudden and as stupendous as this.

The application, therefore, of a feature which had been not only known, but actually in occasional use, for centuries, the pointed arch, was the real era of the invention, or, rather, the development, of the Gothic style. How its application was first perceived it is very curious and instructive to observe.

The ancient church architects possessed an extraordinary sagacity in seizing upon a good idea, seeing through its capabilities, and fearlessly carrying it out to its legitimate results, however far it might lead them. They did not care how exorbitant its demands might be; if it was a good idea, and would stand the working out, they let it have its own way, and made the most reckless concessions to its necessities. They overturned a whole primary principle, surrendered every prejudice, every radical propensity, every cherished idea, to humour it, and to satisfy its extravagant caprices. They knew its merits, and foresaw that they should get right in the end by following it out, even though a good many difficulties, some bungling experiments and occasional failures, were to be encountered in the process.

So with the adoption of the pointed arch. It was like inserting a wedge into a crevice, which must end in the disruption of the mass, while yet the conscious workman still plies the hammer to drive it more and more home.

The Gothic style commences with what is commonly called the Transition period; an intermediate point which is justly considered to involve almost the only sudden change in the whole history of a strictly progressive art, from its earliest to its latest existence. Sudden it certainly must be called, because the entire duration of the mixed style, from the first infringement of the Romanesque to the final establishment of the pointed principle, was only for about thirty years at the utmost. It was the critical point at which the art took a new turn and made a mighty effort, and after a thirty years' struggle gained a complete, a glorious, a decisive victory. A style truly original, and hitherto totally unknown, was thus produced, and even fully matured, within the limits of that very brief but very active period of church building. In 1170 the Norman tower and western transepts of Ely Cathedral were in course of erection; in 1180 the Norman Galilee porch at Durham was built; in 1202 the eastern parts of Winchester; and in 1215 the western porch of Ely Cathedral were completed, both of the most perfect and well-developed pointed style. And yet in 1138 the abbey church of Buildwas, Salop, which is early Norman work with pointed arches, was finished. How can we reasonably argue that the discovery of the pointed arch was the direct cause of the Gothic style, when the Romanesque was still prevalent in England for nearly half a century after that feature had been fairly introduced into the architecture of the country?

If we consider carefully the real differences between Norman architecture with the semicircular arch, and the same with the general or partial use of the pointed, commonly called semi-Norman or Transition, we shall not fail to notice the following facts, which we will afterwards briefly follow out to their results in the complete Gothic styles:—

1. That there is not any essential or radical difference in respect of detail, but only such as consists in modification. For the ornaments, mouldings, capitals and columns, arcades and pilasters are often actually identical in both styles, and are certainly never so materially different as alone to constitute a new kind of architecture.

2. That the proportions were more altered than the details in the progress of the change from the round to the pointed style, as by a manifest elongation, increased lightness and subdivision of parts, by which the Romanesque was gradually prepared for the reception of the pointed arch, when the due time for its adoption arrived.

3. That the intermixture or accidental and indiscriminate use of pointed arches with semicircular does not so far change the character of a Romanesque building as to attach to it the distinctive character of Gothic. For instance, the naves of Fountains, of Buildwas and Malmesbury Abbeys and of the Temple Church have pointed arches, for the most part springing from pure Norman columns, and immediately surmounted by purely Norman semicircular arches, either in the triforium or clerestory. On the other hand, the nave of Oxford Cathedral has semicircular nave-arches and early pointed clerestory windows. Kirkstall Abbey and St. Cross Hospital, Hampshire, have also pointed nave-arches, with all the main features of Romanesque work, and little or nothing of Gothic character about them.

4. That the immediate result of pointing an arch is to give a much greater height in proportion to the breadth between its two piers or columns than would be obtained by a semicircular arch borne by the same supporting masses (see fig. 1).

5. That in attempting to gain the same lofty effects the late Romanesque builders, as we know from documents and existing vestiges, uniformly heightened their columns by adding to or rebuilding the earlier ones, by which means the relative proportion between the arch and its pier was frequently sacrificed.

6. That the breaking up of solid and heavy masses into parts by distributing the thrusts and weights in various divergent directions, borne by isolated members at various heights, was the first process of disintegration, by which multiplicity and minuteness of parts were produced out of vast, few and heavy constructive features.

7. That the real criterion of a pointed building, properly so called, consists in the use of pointed arches in the vaulting, because in this case the contiguous side arches are pointed by necessity to suit the vaulting, and no longer by caprice, that is, without particular relation to other and ulterior parts of construction.

8. That it was not the discovery of the pointed arch (which must be nearly as old as the use of a pair of compasses) that caused the introduction of the Gothic style, so much as it was the germinating and expanding principles of vertical ascension, which enforced the general adoption of the pointed arch—a feature already well known and long practised in the architecture of many countries and several independent formations.

Let us now reconsider the above facts in reference to the principles which they involve and the results which they at length brought about.

1. It is clear that as details form the decorative part of architecture, the adjuncts rather than the essentials of any style, they have not in themselves sufficient preponderance to constitute that actual contrariety of radical principles which distinguishes all Gothic from all Romanesque work. The utmost which even the completest change of details can effect is to second and aid the development of new principles. This will be readily conceded by all, and it is perfectly easy to illustrate it by adducing instances, on the one hand, of early Gothic details co-existent with decidedly Norman outlines and primary features, as in St. Joseph's Chapel at Glastonbury, and, on the other, of Gothic principles, such as pointed arches, either plain and massive almost to rudeness, or relieved and enriched by purely Norman ornaments, as the chevron, the beak-head, &c. Thus in the nave of Barnack Church and the west front of St. Leonard's Priory, near Stamford, we have semicircular arches mixed up with a great deal of First-pointed or Early English detail, and there are countless doorways, chancel-arches, &c., in existence which are Gothic in all except the detail, which is Romanesque. Thus it appears that, although this incongruity between principles and details is a natural mark of a transition style, yet it is the former rather than the latter which constitutes the real difference between the old and the new, and that difference of details is rather an accident in both, only casually connected with their particular stage of development.

2. Although Norman details continued in all their original quaintness till fully as late as 1180, still buildings of that era are always marked by two decided tendencies to Gothicism—lightness and elongation, that is, increased height with decreased bulk or diameter. This is very observable, even where the semicircular arch is still retained with all the Norman decorations. The complex wall-pier, with its surrounding nook-shafts and jagged rectangular capital, is now changed into the taper cylindrical column of perfectly Gothic proportion, of which the north side of the nave at Barnack, the Galilee porch at Durham, the churches of Bourn, near Cambridge, Witham-on-the-Hill, Lincolnshire, and Becket's Crown at Canterbury, &c., are examples, and the capital is much reduced in size by having the corners of the square cut off so as to exhibit the octagonal shape. It is on these capitals that we first see an approximation to Corinthian foliage, which soon after was matured into the umbrageous luxuriance of the next style. The notion of greater height and slimness having been attained, it was found that the pointed arch surmounted these columns with much more propriety, convenience and effect than the semicircular form, because it much better preserved the dignity of relative proportion.

3. That many Norman buildings have the pointed arch and yet remain Norman is undeniable. The nave of Fountains Abbey, already cited, is as thoroughly Norman as any building can possibly be, and yet it has long ranges of equilateral arches on both sides of the nave. The western towers of Durham Cathedral have alternately Norman and Early English arcades in several tiers one above the other; so also the great western tower at Ely has pointed and round arches similarly intermixed and indiscriminately used, and the west fronts of Croyland, of Byland and of Malton Abbey Church, Yorkshire, are of much the same composition. In these and many such buildings had all the arches been pointed, or all semicircular, it would be unsafe to assert that they would themselves have thereby become either more or less Romanesque than they now are. The pointed arch could not on the contrary supposition have been so long co-existent with the pure Norman style without superseding or overthrowing it.

4. The use of the pointed arch, however, operated extensively in two ways, which are completely Gothic; it imparted additional height without additional breadth, and afforded the very important facility of attaining the same height with different widths, *i.e.* greater or less span, or breadth. It converted, as it were, a square into a parallelogram set on end, and so far turned that which was as much horizontal as vertical into vertical predominating over hori-

zontal (see B, C, fig. 1, the string-course and vaulting shafts being the boundary lines). The former principle was immediately carried out to a considerable excess in arcading, where the shafts are often placed very close together, and support extremely tall and yet extremely acute and narrow arches. Now in Norman arcades the principal mural ornament of the style, when the shafts are placed, as they often are, very close together, no effect is gained but that of crowding, because the semicircular arch is as much lower as it is narrower; and thus the due proportion, invariably observed in the Gothic, between the arch and the bearing shaft, is totally sacrificed when the arcaded space is of considerable height.

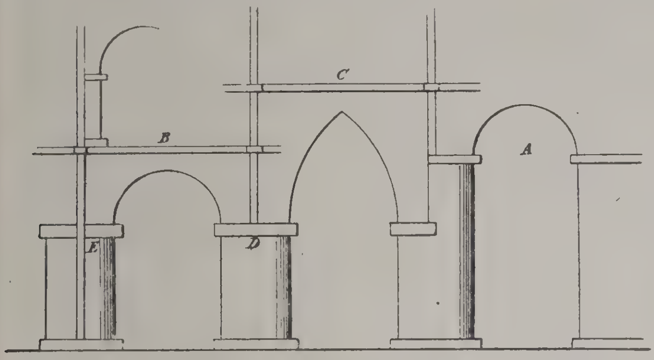


Fig. 1

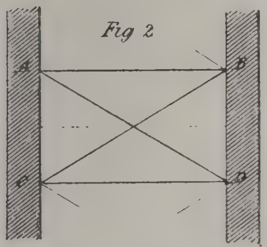


Fig 2

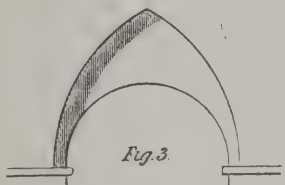


Fig. 3.

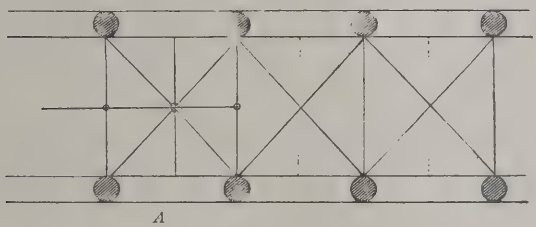


Fig 4.

5. To illustrate our fifth observation it will only be necessary to refer to fig. 1, A, this being, in fact, the application to larger, or pier arches, of the awkward principle just explained in relation to the minor arches of an arcade.

6. The springing off of slender side arches, forming groin ribs to vaults, at right angles to the main row of nave arches, introduced a principle which went far to overthrow the Norman style. To support this groin rib, at first thrown off, as it were, from a spare ledgement of the capital behind or in front of the nave column, a small adherent shaft was soon added to the main pillar, forming the first element of the clustered or complex Gothic column. This may be seen in its simplest state in the nave of Fountains Abbey, the transept at Ely, and the triforium of St. Sepulchre's, Cambridge, where the ribs which support the aisle vault rest awkwardly on the capitals of the main columns, without any attached bearing shaft corresponding to that on the opposite wall. On the nave side the vault (or at least the roof) being much higher, a shaft was first carried up from the top of the nave capital (D, fig. 1), but soon afterwards from the ground, as at E. Then a separate shaft was devoted to the bearing of each of the two nave arches between which the great column stood, and from these four accrescences we derive two forms of columns which were in frequent use in this and the next style; the first, a square central core, with a half shaft attached to each side, as in the nave of St. Mary's, Stafford, and Rothwell, Northamptonshire; and the second, a cluster of four equal and isolated shafts, which are generally united by a central band or fillet of stone or (as at Worcester Cathedral) of metal, to prevent them from bulging away from each other, an effective and beautiful arrangement, which is seen in the Temple Church, and the almost identical examples in the chapel of the bishop's palace at Durham. This afterwards led to the subdivision of the members, or recessed orders of the same arches, so that in pure Gothic arches the bunches of mouldings are borne by shafts, or bunches of shafts, so nearly identical in size and position that sometimes the intervention of a capital alone prevents their absolute continuity.

Thus what we have called the "disintegration of Norman masses" was effected, and a repetition and isolation of parts was gained.

7. It is now generally admitted that in the necessities of vaulting we must look for the true origin of the Gothic or pointed style. That this is strictly true, and that no amount of pointed arches scattered dispersedly, and without system, over a building, as in doorways, triforia, nave and chancel arcades, &c., would ever have effected the same result we will endeavour to show. Our position is, that by the requirements of stone vaults the adoption of the pointed arch was forced upon church architects, not that there was any reluctance in adopting it, for they at once felt it was the very thing which suited their wants, not only in this, but in all other respects, but that they actually had no alternative whatever but to accept it.

Although almost every compartment of vaulting suggests the pointed arch in one or other of its cells or intersecting ribs, it is by no means every vault which was built on a distinct knowledge and recognition of the principle; that was reserved for the builders of the Transition period. It is well known to every one at all acquainted with the elements of architecture that in covering a parallelogram, with a stone vault transverse or diagonal semicircular ribs necessitate either stilted (or raised) or else pointed arches on each of the four, and especially at the two narrower sides in order that the crown of all the arches may be of nearly the same height with very different widths. Thus, to take a very simple example, the passage into the cloister towards the west end of Worcester Cathedral, of Transition Norman date, has semicircular diagonal ribs, A D and B C (see diagram, fig. 2), very slightly pointed arches thrown directly across the passage at intervals, A B, C D, &c., at right angles with the side walls, and distinctly pointed cells, though without ribs, at A C and B D (the point being shown by the dotted line). Now, supposing this to be part of the vaulting of an aisle, and not of a passage with dead walls on each side, it is clear that on one side (say, A C) of the bay or compartment the pier-arch would come in, and on the other (B D) a window immediately opposite, though perhaps not quite so wide. As the cell on each side is pointed, so the window and pier-arch must be concentric, or pointed also, because if a semicircular arch is used it must obviously come much lower than the top of the cell, producing at once a waste of space between it and the crown of the round arch, and a very awkward effect from the dissimilarity of the curves (fig. 3). This is well illustrated in the nave aisles of the Temple Church, where a semicircular window is fitted into a pointed cell on one side, though a pointed nave-arch occupies the other.

On the contrary, the choir of the very same building which is advanced Early English, affords a most convincing proof of the truth of this view. Here the pier arches themselves actually form the groin ribs of the vault, which is of such a construction (the same as in the diagram, fig. 2, except that the diagonal arches are also pointed) that no other form could have been adapted to it except the pointed; in other words, the pier arches are forced into the pointed shape by the requirements of the vaulting.

8. That the discovery of the pointed arch (as it is perhaps erroneously called) did not by any means at once suggest, or even necessarily lead to, the formation of the Gothic style, is a fact which cannot be controverted. The pointed arch was long used in many buildings and in many parts of them without even a suspicion of its latent tendencies, as, for instance, in the several edifices before cited, in which its properties are, as it were, cancelled and its language contradicted by a tier of the old semicircular form added immediately above the pointed row. It is really difficult to conceive that an architect who was fully conscious of the difference between the two forms, as subsequently developed, would have done this. He undoubtedly would have carried out the new principle, had he felt it to be such, by avoiding so fatal a recurrence to the old. It is only when we find pointed forms introduced by the composition of the vaulting that a building is really Gothic; thus, the nave of Fountains Abbey, with

pointed pier arches, but semicircular clerestory windows and (as it probably had) a wooden roof, was purely Romanesque. But the same, with semicircular pier arches and pointed clerestory windows, adapted to the cells of a pointed vault, would have claimed (at all events in a much higher degree) the character of a Gothic building.

The pointed arch is, in reality, only one out of many elements of the pointed style. It was seized upon as a congenial feature, and the use of an important member became a principal means of effecting the complete and symmetrical development of the entire body. Church architecture had become, by a separate process, ready for its reception, and thus it occupied, with ease and natural dignity, the place which awaited it. It began, by actual necessity of construction, to be systematically used in the lateral cells of vaults; then both aisle window-arch and pier-arch were made concentric with their curves, or groin-ribs; then the triforium was assimilated to the row of nave-arches, of which it was, as it were, the reduplication (the earliest pointed example being, perhaps, in the choir of Canterbury), and, again, the clerestory windows were pointed to suit the vault of the nave. The nave-vault necessitated a high-pitched gable, and the vertical lines of vaulting-shafts within, and of bold buttresses without, to counteract the lateral stress, and of vertical pinnacles to counterbalance the strain upon these, and then came pointed doorways, as a matter of course, to suit the pointed windows and pointed arches within. Thus all the parts of a church involved vertical lines and pointed curves by one and the same process of advancement in the art.

Further than this, pointed vaulting has a lateral thrust, while Romanesque, or semicircular, has a vertical pressure, hence the great Gothic characteristic of sloping or pyramidal outline was attained by the gradations of the buttresses and the inclination of the flying arcs thrown off from them to abut the clerestory.

The Temple Church, London, is well known as one of the most valuable specimens in existence of the nascent Gothic style. Its pointed nave-arches, pointed mural arcade, and yet circular-headed windows and Romanesque doorway, render it undoubtedly a singular example of the architecture of a period (1165) when the full force and influence of the pointed arch were hardly appreciated. The almost identical features of the chapel in the bishop's palace at Auckland, Durham; St. Mary's, Ely; Billingham Church, Durham; St. Mary's, Stafford; Rothwell, Northamptonshire; New Shoreham, Sussex; Walsoken, Norfolk; the castle at Oakham, Rutland; the west front of Ketton Church, in the same county, and the famous Becket's Crown, at Canterbury, are a few other instances of the most curious buildings we possess of the Transition period, the dawn of Gothic architecture properly so called. The church of St. Lawrence, Ramsgate, is a most interesting edifice, of perfectly Norman character, but with all the arches pointed. Some of them are rather pointed-segmental than of the ordinary Gothic form. The detail seems fully as early as 1150. The central tower is borne by four pointed arches, one of which exhibits the chevron moulding, though it has a semicircular arcade below the belfry.

To understand how completely the character of a building becomes pointed by the use of pointed arches in the vaulting let any visitor inspect the cloisters of Westminster Abbey. In the Early English part of this beautiful and truly Gothic enclosure the compartments of the vaulting are quadripartite, exactly as in the diagram already given, and as in the choir of the Temple Church, each compartment containing, of course, six separate arches, viz. two diagonal and four at the sides of the parallelogram. All these are pointed, the diagonals the least so, because their span is, of course, the greatest, those at the ends of the parallelogram the most. This, again, is a case in which the windows are forced into the pointed form to suit the nature of the vaulting.

Few and elementary as are the remarks we have made on vaulting, they are sufficient to illustrate our position, and it would be useless to prosecute this difficult and extensive subject any further at present. One of the most decisive proofs that it was not the pointed arch absolutely, but only a particular application of it, which effected the change from the Romanesque to the Gothic style, is the fact of its frequent and deliberate use in many foreign Norman buildings of a date considerably earlier than the first appearance of pointed architecture or "Transition Norman" in this country. It was, in fine, freely used during almost the whole of the twelfth century, though without materially disturbing, much less causing a revolution in, the prevalent style until the end of that period. Now with this must be coupled the important fact that (in England at least) not a single instance of a large church vaulted in stone occurs till towards the close of the twelfth century, that over the choir of Canterbury Cathedral, erected after 1174, being the earliest. The difficulty of vaulting so large a space in the Romanesque method seems to have been fully felt, and it was only when the use of the pointed arch in vaulting minor spaces had become familiar that the attempt was made on a larger and bolder scale, and that with the success of that attempt all the other accessories of the pointed style naturally followed in the order already described: its slender clustered vaulting shafts, its diverging ribs and cross springers, its sculptured pendant bosses, and subsequently its longitudinal and transverse ridge pieces, as in the choirs and transepts of Worcester and Westminster, and the eastern portion of St. Albans (fig. 4, A).

In Sicily pointed arches are found, as remarked by Gally Knight, nearly a century earlier than in England. In the former country this feature appeared soon after the conquest by the Normans in 1072, having been, without doubt, suggested to them by its use in the Saracenic edifices. It is found in conjunction with the semicircular arch in the church of San Giovanni de' Leprosi, built by Count Roger in 1101. The church and monastery of San Giovanni degli Eremiti is another very early instance; the arches are generally pointed, and the cloisters exhibit a most interesting specimen of the lancet arch supported on double isolated shafts of slender proportions, and continued all round the square in close succession. The whole of this building was finished before the year 1132. Many other instances of the early use of the pointed arch, not as it were accidentally, but designedly, are noticed by Mr. Knight. Still, their style never developed itself into the Gothic, but continued to partake of the Romanesque and Byzantine orders in spite of their pointed arch—a circumstance which goes very far indeed to prove that the use of this feature does not of itself constitute Gothic architecture. The early Norman buildings in Sicily are as essentially Norman, *i.e.* Romanesque, as any of the same kind and date in England or the North of France, notwithstanding the Saracenic feature—the pointed arch—which was known to the architects of the first, but not to those of the other countries, or, if known, very little cared for or appreciated.

When we consider the fact that it was only in vaulting oblong or parallelogrammic compartments that the pointed arch was necessarily adopted, the square bay being easily vaulted, either by the Roman method of cross semi-cylinders or in semicircular groins, by stilting those at the sides, and making the diagonals less than a semicircle, *i.e.* segmental or elliptical, we shall at once understand the difficulty which the Normans had in vaulting the naves of large churches. For unless the width of the nave is the same as the span of the nave arches, the space included between four columns (a bay) is not square. Now the Normans seldom built semicircular nave arches of wide span, while, on the other hand, they were fond of having their naves of very considerable breadth, so that each bay formed a parallelogram, which they could not easily vault without the pointed arch, for reasons already explained. But this feature being once applied to vaulting, the architect gained an immense advantage in having the span of the pier arches as narrow as he pleased (as at Westminster Abbey), while the width of the church bore no necessary proportion at all to it. Our meaning will be at once seen by the diagram (fig. 4) representing the rows of pillars along a nave.

We trust that we have successfully demonstrated the reasons of the apparently singular fact that not one of our many Norman abbatial or cathedral churches either has or ever had a roof vaulted in stone. We are aware that this can only be said of England, for there are instances abroad which it would be impossible at present to discuss.

The choir and transepts of the cathedral of Cefalu in Sicily form one of the few examples of a vaulted and groined roof thrown over so large a space by the early Normans. It was begun in 1132. Two celebrated instances occur at St. Stephen's and the Holy Trinity, Caen, where the vaulting of the naves is Early Norman, the diagonals spanning two bays at once, with an intermediate arch directly across their intersection.

In the vaulting of crypts the pointed arch was perhaps first used. By this means height was gained in connection with very low columns, as may be seen in the crypt at the east end of Canterbury Cathedral, contrasted with the earlier portion towards the west.

We have already alluded to the church of St. Mary at Stafford, which has been admirably and expensively restored, and now affords one of the most interesting specimens in this country of the transition from Romanesque to Gothic. The arches which support the central tower are purely Norman, though perceptibly pointed, while those of the nave are equilateral, or lancet-shaped, perhaps a little later in date, and essentially Gothic in detail.

The great arches supporting the west tower at Ely have been discovered and partially exposed, later sub-arches, of early Perpendicular date, having been erected to support them. These are pointed, with Norman details, like the rest of the tower, which, however, is wholly Romanesque in its general character. The circular part of St. Sepulchre's, Northampton, has plain pointed arches rising from Norman piers; the churches of Barholm, Lincolnshire, Essendine, Rutland, Sutton Bassett, Northamptonshire, contain pointed arches which are perfectly Norman in their detail. On the other hand, examples are very numerous in which round arches occur, not only in doorways and windows, as at Byland Abbey, Yorkshire, but above the principal piers and columns, fully as late as the year 1200.

Two of the arches which support the tower of Oxford Cathedral are pointed Romanesque, of about the same date as the Galilee at Durham, where the arches are semicircular, but of a light ornamental construction, viz. 1180. It may be remarked that the tower arches are both the loftiest and the widest which the Normans ever had to construct, as at Winchester, Peterborough and Norwich, and that they do not appear to have been very successful in making them of sufficient strength and rigidity of masonry.

As all the essential features of the pointed style were long lying, as it were, dormant in the Norman era before their true application and capabilities were felt, so the germ of every Gothic detail may be detected in some latent form, if not found in full development, in the architecture of that date. Foliage, as applied to capitals and archways; the hollow Attic base, so familiar to observers of the Early English style; the bold roll-mouldings, with their contrasted hollows (the latter, however, in a modified degree); the clustered or complex pillars; the isolated nook-shafts; the banded columns; the dog-tooth ornament; the tall and narrow splayed window—all these are common to the Romanesque and the Gothic style. Why, then, do we talk of the unravelled mystery, the inextricable puzzle, the hopeless obscurity of the origin of Gothic architecture? Here is every element which occurs in early pointed work in use, under some form or other, in its Romanesque prototype. Which, then, is the real point of obscurity? the origin of the pointed arch? That was actually known hundreds of years before Gothic was even thought of.

It seems to us that the origin of the slender shaft or the lancet window might just as well be made the subject of learned investigation. We have endeavoured to show that the only question which really requires solution is this, What made the church architect, at the close of the twelfth century, prefer the pointed to the semicircular arch? And that the answer is, the necessity of using it in the construction of vaulting, which would no longer admit of the semicircular form, either in itself or in its adjacent relations. Surely the old theory of the intersecting Norman arcade causing the invention of the pointed arch, and with it of the Gothic style, will no longer find advocates.

That the inevitable tendency of the pointed arch, when once fairly admitted, is to suggest verticality, to add height, to diminish breadths, to promote perspective effects, to carry the eye upwards and beyond it, to induce pyramidal and triangular forms, to promote the repetition, multiplicity and minuteness of parts, by increasing the number of arches and groinings, and assigning to each support its peculiar burden—all this must be obvious to every observer. In a word, the pointed arch once having become the fashion, and the semicircular form being retained for a time only by a kind of sufferance, all the other consequences were almost inevitable. We conclude by again impressing upon our readers the fact that the only question which really requires solution in investigating the formation of the Gothic style is this. What motives made the architects of the end of the twelfth century reject the favourite old form and take up the hitherto despised and neglected, though certainly familiarly known, pointed arch?

HISTORICAL PAGEANTS.*

I FEAR that possibly you are to be the victims of a disappointment to-night. You are so accustomed in this room to learned disquisitions by masters of their subjects that the homely talk of an ignorant person must seem to you very jejune and uncalled for. It was not until I had accepted the invitation to address you on historical pageantry that I realised I knew nothing whatever of the subject, or, at any rate, that such knowledge as I possess is only superficial and desultory. I found as I began to prepare my paper that I should have to depart almost entirely from the title of it, and instead of giving you a well-thought-out account of what used to be done in pageantry in ancient times, confine myself to a description of what I did myself last summer at Sherborne, of what I hope to do next year at Warwick, and of what I dream of doing if all goes well in the not remote future. I only beg you not to think I am speaking egotistically. My apology is that I can only hope to be of any use to you if you will allow me to speak of a matter of which I myself have a slight experience and in which I am profoundly interested.

As a matter of fact, the historical side of the subject was most ably treated here in 1902 by Miss May Morris. You know from her very interesting paper more about masques and triumphs and pageants than I could hope to tell you. I would not, if I could, go over the ground she has tilled so well, and I am all the more at liberty to speak of the effort I personally am making because you are familiar with the history of the matter.

I take it for granted that there are very few things with which this audience is not familiar. But has it ever occurred to you how ignorant the majority of people are about their own immediate surroundings? I venture to say that if you were to ask the first man you met in John Street why this is called the Adelphi, he would not only not know but he would not care. Why, only the other day, somebody or other suggested that the name of the Haymarket should be changed because it was senseless and conveyed no meaning.

So we move about London with names full of great historical meaning in our mouths—names which are in themselves poems and romances—and we think nothing of them. Perhaps it is as well we don't, for if we stopped to do so we should infallibly get ourselves run over.

But as it is in London so is it also in every town in England. In each of them there is a small handful of men who value the town's treasures, who are steeped in its history and its traditions, but, beyond that handful, the vast majority of the inhabitants never let these matters bother them. Until quite recently the ancient buildings in a town were considered unsightly nuisances, to be swept away, just as the magnificent old furniture of our forefathers was consigned to the lumber room. I could sit down and cry when I think of the lovely and venerable things the first half of the nineteenth century sent to limbo. I could cry when I think how the clergy were let loose in the land to play havoc among the lovely and venerable churches in their charge. I could cry when I think of the lovely old houses, old manor-houses, moated granges, timbered mansions, ruthlessly torn down to make room for this desirable residence and those commodious premises. Think of what Park Lane was, and realise what it is. Think of the High Street, Kensington, of no more than ten years ago, and see it now. When you find yourself in some quiet country town which went to sleep when the stage coaches died and has not yet been disturbed by motors, and amidst Queen Anne mansions, Elizabethan mansions, stately Georgian mansions, half-timbered mansions, you are suddenly confronted with the latest steel-frame six or seven storeyed emporium, the basement of which is all plate-glass and ginger-bread, covered with horrible advertisements of monstrous comestibles, quack nostrums, foods for the fat, pale pills for pink people, all labelled with hideous outrages on the English language in the shape of new words—clenol for a soap, quicklite for a match, ritefast for an ink—you do realise that here is a ghastly thing which kills and murders the beauties of its surroundings, which ought to be torn down, burnt, trodden under foot. Yes, you realise it, but the inhabitants of the town in which it stands do not. They are proud of it, for it is a symptom that their town is moving with the times.

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* A paper read by Mr. Louis N. Parker, F.R.A.M., in the Applied Art Section of the Society of Arts on Tuesday, December 12.

They feel that London has no longer the monopoly of great establishments.

But what, you ask, what can all this have to do with pageantry? Why, it has everything to do with it. This is just precisely the kind of spirit which a properly organised and properly conducted pageant is designed to kill. This modernising spirit, which destroys all loveliness and has no loveliness of its own to put in its place, is the negation of poetry, the negation of romance. Yet human nature is the same throughout all ages, and in our hidden hearts we have as much poetry in us as our forbears, and as much love of romance, only we are ashamed to say so. We have been shamed out of saying so, or out of showing any such feeling, by long years of repression, by long years under the tyranny of the genteel and under the thraldom of push and advertisement. If you want art, beauty, grace—whatever word you choose with which to describe the quality—if you want this indescribable thing to touch the man to-day, to come into relation with his personality, to have some share in his life, to colour his thoughts, to influence his actions, you can only get at him through his eyes, or by dragging him, willynilly, into the vortex of an artistic experience.

Now then, take that man by the button-hole and say, "Come out of your office, come away from your desk or from your counting-house, and be King Alfred! Be Charlemagne! Be William the Conqueror! Put on armour, get on a horse: come and be a Danish chieftain. Enact the very deeds that were done in your ancient town five hundred or a thousand years ago." Well, he leaps at the idea. Here is a bit of fun. But before he knows where he is, he is taking the fun in grim earnest. He begins to understand. He begins to realise that the vague names he has associated with vague dates are the names of living men and women with like passions to his own. He realises for the first time that their deeds which had hitherto only struck his senses dully as pages of history, were done as the unconscious development of their lives; that, in short, they were doing what he is doing every day—just living. Further, he begins to grasp that, because they did such and such things in the old days, he is able to go about his own business to-day without let or hindrance. Then comes the sudden revelation that these portentous things were done in his town, in his abbey church, in his street—perhaps in the very house he is now living in. At once the town and its buildings and monuments are transfigured in his eyes. Woe betide the iconoclast who thereafter dare lay sacrilegious hands on one stone. Local patriotism has been aroused, and out of local patriotism, I think, springs a far finer national patriotism than any founded merely on rifle-clubs and Morris tubes. Let those be an outcome of patriotism if you like, but get your patriotism first. Let your young citizens clearly understand what they are defending, and they will defend it with a higher courage than if they are merely to fight the foreigner because he is foreign. Further, your performer acquires quite a new idea of beauty. He sees himself a figure in a striking picture, and he realises that pictures themselves may possibly have some practical relation to real life. He acquires further an interest in all manner of remote subjects which had previously been hidden secrets for him, or which he had laughed at as ridiculous and meaningless survivals. Heraldry, for instance. He knows now why a bear is the badge of a certain family; he has seen the ancestor win the badge by his personal prowess, or, perhaps, he has enacted that very ancestor. Costume, again, receives quite a new importance when you have had to devise it and wear it and be responsible for its correctness.

So much for the individual, then. And as for the individual, so for the town. For months the whole town is set to work; all the men and women who can do anything have been laboriously hunted out and set to work upon whatever they can do best. The broad principle is laid down and firmly maintained that whatever can, anyhow, be made in the town itself shall not be sought for outside. Now, to judge by my very short experience, it is quite amazing how much talent and technical skill is lying dormant and unsuspected in the provincial towns of England. Both at Sherborne and Warwick the inherent requirements of the pageant set quite difficult problems in the way of elaborate properties and costumes. Problems so difficult that I was secretly prepared to own to defeat, and at the last moment to call in the professional assistance of a London property-master and costumier. Fortunately I held my tongue, and in both towns the right people have arisen ready and qualified to cope with far greater difficulties than any I am likely to suggest. At Sherborne a rough-hewn stone altar of gigantic size, which should be capable of being carved into the likeness of a cross with theatrical quickness, yet with sufficient verisimilitude to avoid being ridiculous, was provided with smiling ease. So was a very handsome and gorgeous litter for a Saxon queen; so was, amongst other things, a beautiful copy of a triptych of the Van Eyck school, the original of which is in the almshouse. At Warwick, the monstrous and terror-compelling head of the famous Dun Cow seemed to present difficulties, as did Queen Elizabeth's travelling-coach, and her great gilded barge; but no sooner were these difficulties mentioned than artificers arose ready to grapple with them, and if I may trust the designs, they are already sure of success. In both towns, every costume, every property, was and will be designed and made on the spot, with the exception of heavy plate-armour and wigs. You can see how greatly that adds to the interest the town takes in the undertaking. You can also see how greatly it adds to the pageant as an educating force, and as a means of bringing different strata of society together. At Sherborne and Warwick some 250 ladies were or are occupied in designing and executing the costumes. They meet once or twice a week, in working parties of twelve or twenty, at each other's houses, and, mark me, they know they mustn't quarrel until the pageant is over, by which time they will have grown such good friends that quarrelling will be out of the question.

And all this time I have not told you what precisely I mean by a pageant. Here let me read an extract from my introductory speech at Warwick:—

"Let me say here what a pageant is not. It is not a circus. It is not a procession. It is not in any sense a display of professionalism. Nor is it a pastoral play. What is it, then? It is the representation of the history of a town in dramatic form, from the earliest period to some later point, forming a fitting climax. This is set forth in verse and prose of the most direct sort, and is embellished with choruses, songs, dances, marches and every legitimate spectacular adjunct. It is acted in some beautiful and historical spot, which is left without any artificial embellishment whatever. It is acted by the citizens of the town themselves, their wives, their children and their friends. It is therefore acted by the actual lineal descendants of the characters represented. It is acted in a spirit of simplicity and reverence, and the audience must bring the same spirit in watching its progress. It is not a stage play. It is a lofty and dignified panorama of the town's history. And it is more. It is an act of local patriotism. And out of local patriotism grows that wider patriotism which binds the sons of England together—whether they call themselves New Zealanders, Australians, Canadians or Americans. But it is more still. I confess I cannot conceive a pageant except as an incident in a great act of praise and thanksgiving. I would have all pageant days begin, as a matter of course, with joyful festival services in all the places of worship in the town—or, rather, these festival days should close with a pageant. This was the origin of pageants in the old days, and when this idea was lost sight of the pageant withered and died, as it deserved to. I should be ashamed of the praise which has been too generously lavished on me for reviving this ancient custom if I did not know in my own heart that I had a higher object in view even than the invention of what to all intents and purposes is a new form of drama."

Now, briefly, as to the technical means whereby a pageant may be built up. It needs, first, a narrative chorus of men's voices only, which fulfils a purpose analogous to that of the chorus in the Greek drama. The arena in which the performance takes place is very large. At Sherborne it covered 7 acres; at Warwick the distances will be even greater. The performers will enter through woodland glades many hundred yards away; they will even come up the Avon in barges, and they will be seen on the remote slopes of the park on the other side of the river long before and long after they appear on the actual arena. Nevertheless, the audience must know who they are and what they are going to do. The function of the narrative chorus is to impart this information. Next, we want an unlimited crowd. The crowd is the characteristic and astonishing part of a pageant, and its size and lifelike movements contribute mainly to its success. It may at first sight seem difficult to make a really large crowd of amateurs act, but I assure you it is the easiest thing in the world. It is difficult to make professional supers act, because they have a conventional idea of what is wanted, and they express all passions by rudimentary symbols. But get a real crowd, and once make them understand they have to express real emotions as they would in real life, and the effects are astonishing, not to say terrifying.

Lastly, we want a very large supply of actors. In the Sherborne pageant there were over ninety speaking parts. In the Warwick pageant there will be close on 200. Now you may think that, however roughly effective a large crowd taken in the rough may be, when it comes to individuals and their utter inexperience in the art of acting the result must be ridiculous. I assure you it is not. Of course, you must choose your performers with some consideration for the personages they are to represent. But if physically they are in keeping with their parts, and if they speak distinctly, the result is absolutely satisfactory. In some instances it is a great deal more. I could mention certain impersonations in the Sherborne pageant, both male and female, which could not have been bettered under any circumstances. I am not going to mention them because that would be most unjust to the others who did their best, and were quite good enough for all practical purposes. You see, first of all, your performers must be in earnest; next, they must be simple; and lastly, they must be humble. Granting those three attributes, whatever else they are, they cannot be ridiculous. Moreover, the open air transfigures everything, it makes every gesture seem natural and unforced, and it increases the illusion indescribably.

It is, of course, an essential that not a trace of the mechanism by which the crowds are controlled should be visible, nor any sign of the subsidiary helps. The audience must see nothing whatever of the orchestra, they must not catch a glimpse of the conductor, the existence of a master of the pageant must not be remotely indicated. When our audiences have found their seats, they have in front of them nothing but the arena on which the pageant is to take place, and that is absolutely as nature made it, without the slightest artificial enhancement of any sort, and without the suggestion of any living thing within a hundred miles of it, beyond beasts and birds, although a thousand people are eagerly waiting for their cue within a few yards. Also, when the the pageant is over and the last actor has disappeared from the arena, the audience's final glimpse of it is again as of a landscape void of any living thing save birds and beasts. The performers have all melted away as in a dream.

With your permission I will now show you a few pictures from the Sherborne pageant. I am indebted for the loan of the slides to the kindness of Canon Westcott, headmaster of Sherborne School, whose wonderful enthusiasm did so much for the Sherborne pageant, and whose own performance in it was an exquisitely beautiful thing. The living pictures are due to the courtesy of the well-known Urbanora Company.

Before I conclude I should like, if I may detain you a few moments, to sum up what I have already told you, and to disclose to you a scheme—I had better say a dream—I am cherishing

I hope I have made it clear that I have a very lofty ideal of what a pageant should be, and of the end it may be made to serve. You may have noticed that I have not said a word on the financial side of the question. That ought not really to come into consideration at all. A town determined to do itself honour and to claim the attention of the world by celebrating its history and the fame of its great citizens ought by no means to count the cost. Unfortunately the cost has to be counted in this imperfect world, and it is, therefore, comforting to be able to say that at present, and for the next few years, until pageants have become cheapened and vulgarised, they are a pretty safe investment. But I have very little interest in that side of the matter. Even if a pageant were a dead loss, I say the gain to any town giving it would be incalculable; the gain in added brightness, in re-awakened civic pride, in increased self-respect. I believe I have—rather late in life, alas!—discovered the means whereby I too may add my mite towards bringing rural life in England back to its old-time innocent gaiety while reviving research into local history, pride in the great men who have distinguished that history, and, in short, the noblest sort of patriotism. I am quite unfeignedly proud of that—I may say I am getting conceited about it. It is no mean thing to have forced my friend James Rhoades to write such beautiful poems as "Fons Limpidus" and the "Triumph Song" in the Sherborne pageant, and the fine things he is writing for Warwick, and to have given 30,000 people the privilege of hearing them. It is no mean thing to have given these young composers of Sherborne and Warwick an opportunity of showing of what musical stuff they are made before the same enormous audiences. Well, but I want to do more. I want to be able to look forward to a great national pageant. It is not an idle nor an impossible dream. Next year two towns will have had the celebrations. I am already invited to conduct two pageants in 1907. In 1908 Sherborne is to be repeated, and there will very likely be a new one. I am hoping for another in 1909. Then we shall have had five great pageants in five separate historical towns. We shall have accumulated an enormous number of very beautiful and very costly dresses, and a large quantity of curious and interesting properties. We shall have drilled two or three thousand people to act together. We shall have masses of music with skilled singers familiar with it. Now, then, how easy it will be to select the two finest episodes out of each pageant, choosing them with a view to historical continuity, to add here and there one or two new points, so as to complete the thing and make it coherent. After separate rehearsals (very few) in each town, we will bring the whole thing up to, let us say, Windsor Park, and perform it two or three times with 3,000 performers, for the benefit of some great national fund, before audiences of 50,000 at a time. Every performer will, I think, gladly give his own services entirely gratis. I know the master of the pageant would do so. And we will call it the Pageant of England.

This is the scheme which I hope to live to see brought to a happy conclusion. This is the scheme also which would be greatly furthered by a word of encouragement from the Society of Arts.

DECAY OF STONE.

IN a letter to the *Glasgow Herald* Mr. Samuel Ansell, of the local Technical College, has furnished the following account of his examination of the white salt found on stone in the new part of the Central Station. He says:—I collected some a few weeks ago, and had it examined in the chemical laboratory of the Technical College, when it was found to be sulphate of lime. This sulphate would be formed by the sulphurous acid fumes acting upon the carbonate of lime which forms the binding material of the stone (in this particular stone there was 9 per cent. of carbonate), and converting it into sulphate of lime, which has no binding properties—the result being disintegration and decay of the stone. To see what effect the use of Portland cement as a mortar had on the conversion of the carbonate into sulphate of lime, I cut a piece of cement mortar out of a joint between two stones, and had the amount of sulphate of lime present in the mortar determined, to see by this if the lime in the cement had neutralised all the sulphuric acid also present in the cement. The result of the analysis was that the lime had neutralised all the sulphuric acid, so that there had been no free sulphuric acid left to act upon the stone and form the sulphate showing on its surface. The cause of the sulphate being at first formed near the beds and joints is, in my opinion, that these parts are kept moist by the evaporation of the water with which the mortar had been prepared, more especially where the joints had been "grouted" or filled up with liquid mortar. The damp surface here provided forms a medium for the conversion of the sulphurous fumes into sulphuric acid, which, acting upon the carbonate, would convert it into sulphate of lime.

If this be the cause, then I fail to see what good or preservative effect the "seasoning" of the stone would have, especially in the case of stones where the carbonates of lime or magnesia form the binding material of the stone. No amount of air drying in a purer atmosphere than we have in Glasgow will change the carbonate or make it less readily acted upon by sulphuric acid, so that when the "seasoned" stone was built and soaked with water as a part of the building operations the same chemical action would set in as in the case of newly-quarried stone. Where the binding material of a stone is of a felspathic nature there will be present in the stone a quantity of alkalis in a soluble form, which on being exposed to the atmosphere would come to the surface of the stone, and there in conjunction with the carbon dioxide in the atmosphere would form an insoluble silicate on the surface of the stone, which would have a preservative effect. To allow of this taking proper effect the stone would need to be cut to the exact shape and size, then allowed to season, for if the seasoning process was completed before the stone was cut the skin would be cut off, and as far as the stone was concerned it would have been better never to have been seasoned, as there would be no reserve of sap in it to again form an impervious surface.

Stone should be cut and built immediately on being quarried, and as little water used in the operation of building as possible. On no account should the joints of a stone be "grouted" up; the joint can be properly filled with mortar without using "grout," if only a little time and pains be taken. By the process of "grouting" a quantity of water far in excess of what is required for the crystallisation of the mortar is used. The surplus water has to evaporate through the stone to the surface, as already described. There is another objection to "grouting" apart from the question of decay, namely, that of adding water to cement mortar which has already begun to crystallise.

Correspondence

King's Norton Competition.

Sir,—The King's Norton education committee have invited architects to submit competition designs for a new school for 1,200 children. The conditions are very objectionable. No premiums are offered, but the conditions state that the accepted design will be the property of the committee. Would it not be desirable for architects to abstain from taking part in a competition containing this and other objectionable conditions? Why should there be no premiums?—Yours very obediently,

James Todd.

EXCAVATIONS IN ROME.

A correspondent of the *Manchester Guardian* writes:—The excavations in the Roman Forum are continuing slowly; attention is being chiefly devoted to the conversion of the former monastery of S. Francesca Romana (behind the church of that name, which forms a prominent feature in the view at the south-east end of the Forum) into a museum and offices for the director and his assistants. In the course of the removal of modern additions interesting remains of the building in its earlier periods (thirteenth to fifteenth century) have come to light, and are being carefully preserved. When this work has been completed—and this should be at no very distant date—it will be possible to remove the present director's offices and proceed with the excavation of the Basilica Æmilia. For the present work is almost entirely confined to the open area of the Forum. In this, near the base of the equestrian statue of Domitian, remains of a building slightly later in date than it have come to light, which had a pavement of coloured marbles and a vaulted ceiling decorated with reliefs in white stucco. Its name and use are somewhat uncertain, and its identification with the Imperial tribunal cannot as yet be treated as more than a hypothesis, inasmuch as explorations are still in progress. In the northern portion of the city the construction of a new road has led to the discovery and inevitable destruction of another portion of an immense ancient cemetery which lay on the west of the Via Salaria, and of which a great part has already been excavated. The electric tramway from Rome to the Alban Hills is almost completed, and should be open for traffic in the spring. In the course of its construction various remains of antiquity have been discovered, and especially where it passes through the vineyards shortly before reaching Grottaferrata, a district which in classical times was occupied by a succession of large country houses, the massive substructures of which still exist, though the buildings which were erected upon these huge platforms have almost entirely disappeared. The important exhibition of "Italo-Byzantine" sacred art in the interesting Basilian abbey at Grottaferrata, which was opened last spring, is to remain open until the end of April. It is well arranged and deserves a visit.

Mr. A. Wilson Fox, C.B., is about to publish with Messrs. P. S. King & Son, of Westminster, a small volume on "The Rating of Land Values." The notes which Mr. Wilson Fox made as secretary to the Royal Commission on Local Taxation have been so much borrowed and referred to that it has been thought that their publication would be of much service to all those who wish to study this subject.

GENERAL.

The Late Mr. John Feeney has bequeathed 50,000*l.* to the Birmingham Art Gallery and 20,000*l.* to the University of Birmingham. The latter amount is for the purpose of maintaining a professor, with suitable equipment, lecturing on some one or more scientific subjects directly connected with the trades and industries carried on in or near Birmingham.

M. Hubert du Puy has presented to the Ecole des Beaux-Arts, Paris, a collection of 3,000 impressions from ancient and modern gems in all parts of Europe.

The Appeal by the Dean of Winchester for funds to enable the authorities to deal with the dangerous subsidence of the east end of Winchester Cathedral and make other necessary repairs to the fabric has so far been responded to generously, the sum of 6,825*l.* having been either promised or subscribed towards the 20,000*l.* asked for. The Ecclesiastical Commissioners contribute 2,000*l.* The "Ladies' Fund" amounts to 124*l.* 11*s.* 11*d.*

The Simplon Tunnel has cost up to the present time 3,019,500*l.*, or about 146*l.* per lineal yard.

Mr. Whitney Warren, the American architect, was on Saturday last elected a *correspondant* of the French Académie des Beaux-Arts in succession to M. Sacconi, of Rome. The subject for the competition for the Prix Achille lecture was selected at the meeting, viz. "A Maritime Railway Station."

Designs for the new buildings for the Bangor University College are to be obtained by limited competition. A public notice will be issued inviting architects desirous of competing to send in their names, though the selection will not necessarily be confined to architects who have applied.

Mr. Rudolf Lehmann, of Bournemede, Bushey, Herts, who died on October 27, aged eighty-eight, left to the trustees of the Tate Gallery his picture entitled *May We Come In?* if they will accept it. He left his collection of pencil drawings of celebrities signed by the subjects to his trustees, directing them to consult Sir E. Poynter, Sir L. Alma-Tadema and Professor S. Lucas as to their value, and to offer them at that valuation to Professor S. Colvin, director of the Print Room of the British Museum, who had asked on behalf of that institution to have the first refusal of them.

Mr. N. H. J. Westlake, F.S.A., has completed a series of the Fourteen Stations of the Cross, commissioned by Mr. S. Taprell Holland for the church of the Holy Cross, Watford, which was designed by the late Mr. J. F. Bentley. Tempera colours are used.

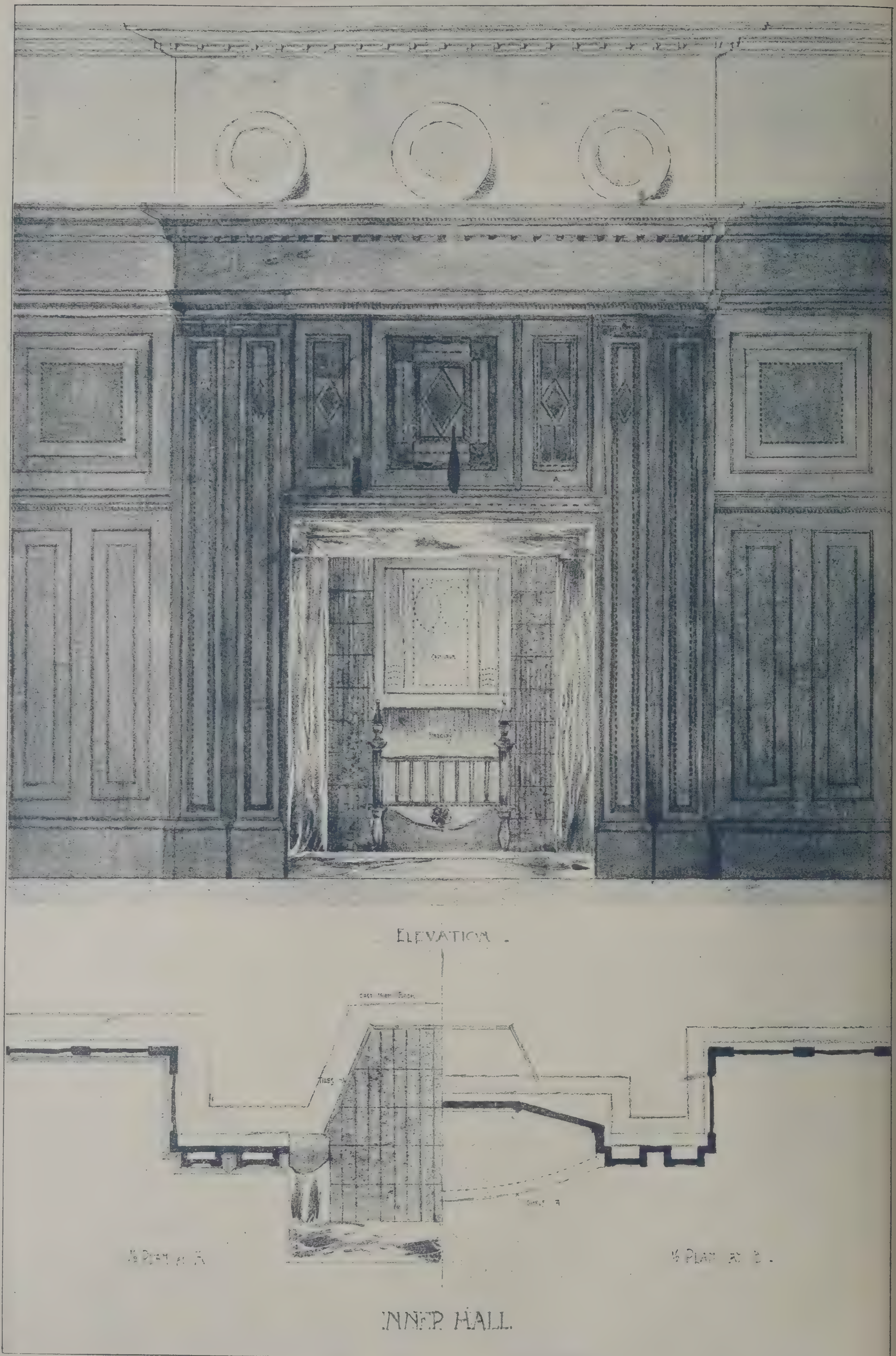
Mr. T. B. Hunter, civil engineer in the Director of Works Department at the Admiralty, has been appointed civil engineer at Rosyth, and will enter on his new duties on January 4.

The Governors of the Lytham Charities considered fourteen sets of plans sent in for the King Edward VII. school which is to be built at Fairhaven out of the charity funds. The first premium (250*l.*) was awarded to Messrs. Briggs & Wolstenholme, Liverpool; the second (100*l.*) to Messrs. Broderick, Lowther & Walker, Hull; the third (50*l.*) to Messrs. Potts, Son & Hennings, Manchester; and the fourth (25*l.*) to Mr. G. H. Willoughby, Manchester. The site has been purchased for 22,000*l.*, and the college will cost 30,000*l.*

Sir R. Wingate, Governor-General of the Soudan, in a letter accompanying the official report on the Gordon Memorial College at Khartoum, says:—"A very important step has been taken in initiating a system of secondary education, and starting a small engineering school for the training of overseers of works and land surveyors. The college is fortunate in having the services of a very competent instructor in Mr. Rhodes, M.I.C.E."

The Property, Nos. 12, 14 and 16 Bishopsgate Street Within, extending from the Wesleyan Mission Hall towards Messrs. Baring's bank, and facing the junction of Threadneedle Street, was recently disposed of by auction after spirited bidding. It is understood that the present buildings will be pulled down very shortly and that new premises will be erected, providing on the ground-floor and basement accommodation for a banking firm and on the upper floors offices. The plans for the new buildings are being prepared by Mr. Paul Hoffmann, architect, of Palmerston House, Old Broad Street, E.C.

At a Meeting of the British Fire Prevention Committee on December 20, Mr. W. Noble Twelvetrees was elected a member of the executive, vice Mr. Lionel J. Langridge, and was at the same time nominated to serve on the general testing arrangements (standing) sub-committee.



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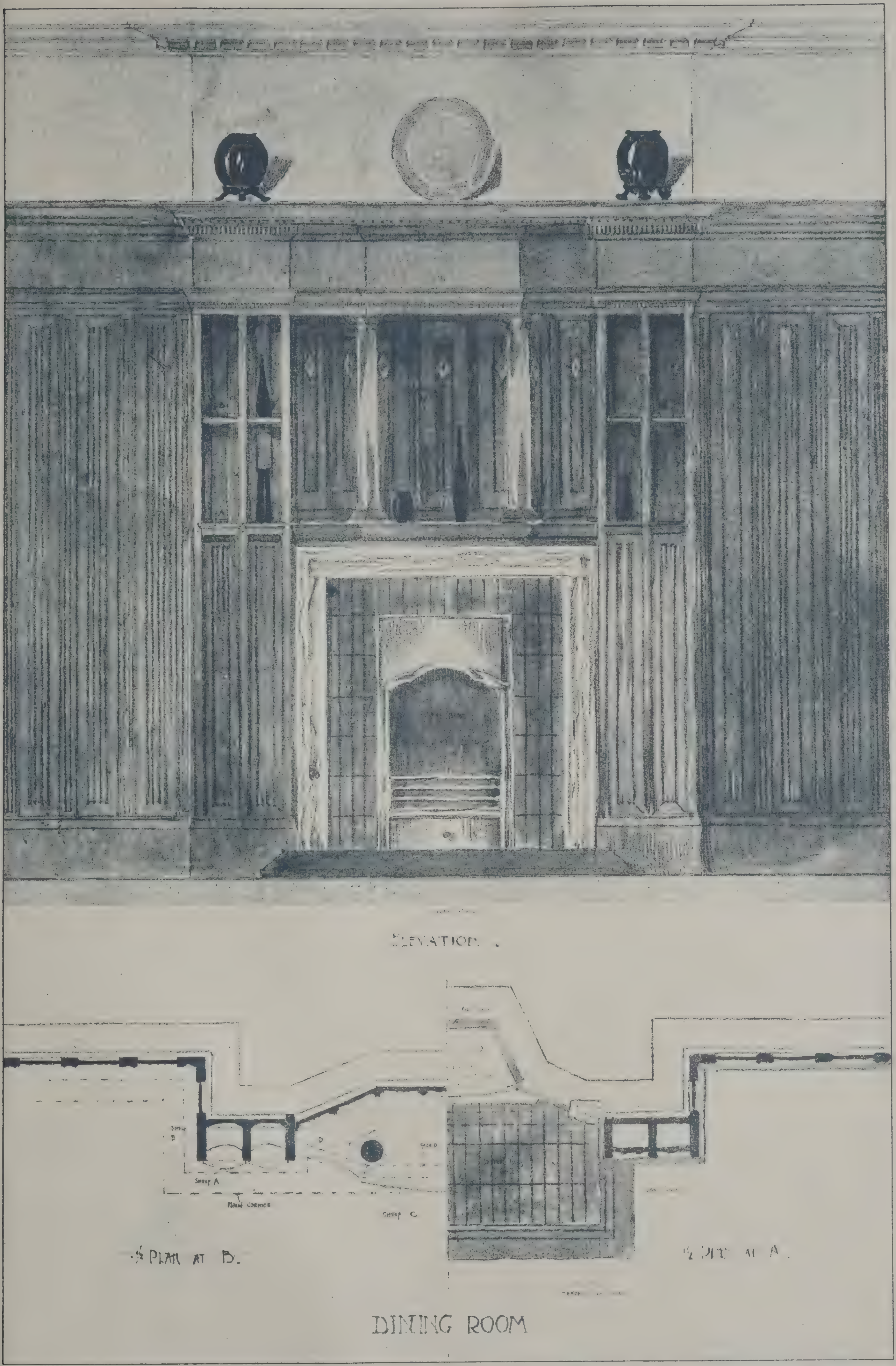
DESIGN FOR MANTELPIECE FOR ABBESS GRANGE, HAMPSHIRE.

By Messrs. BANISTER FLETCHER & SONS.



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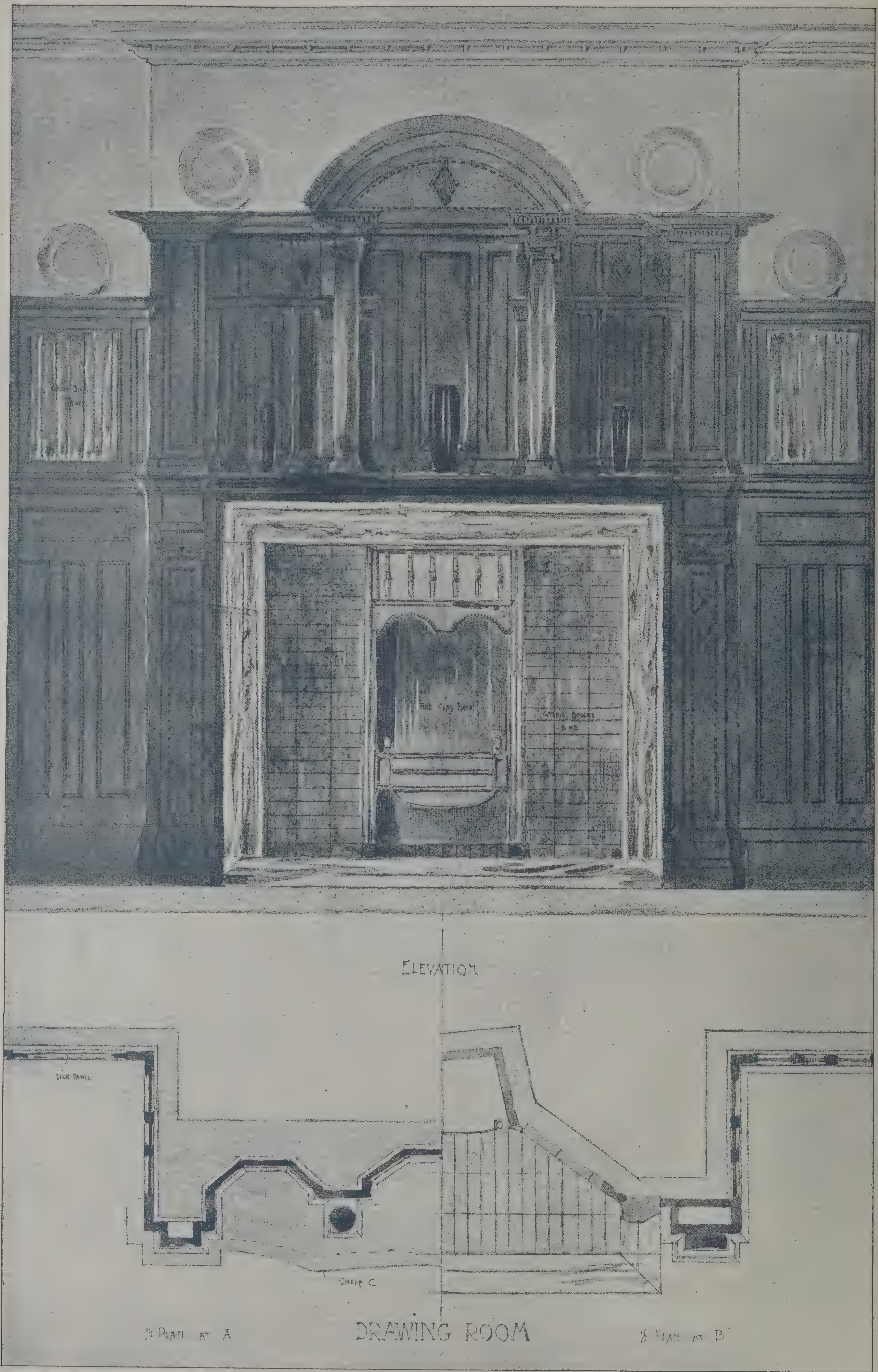

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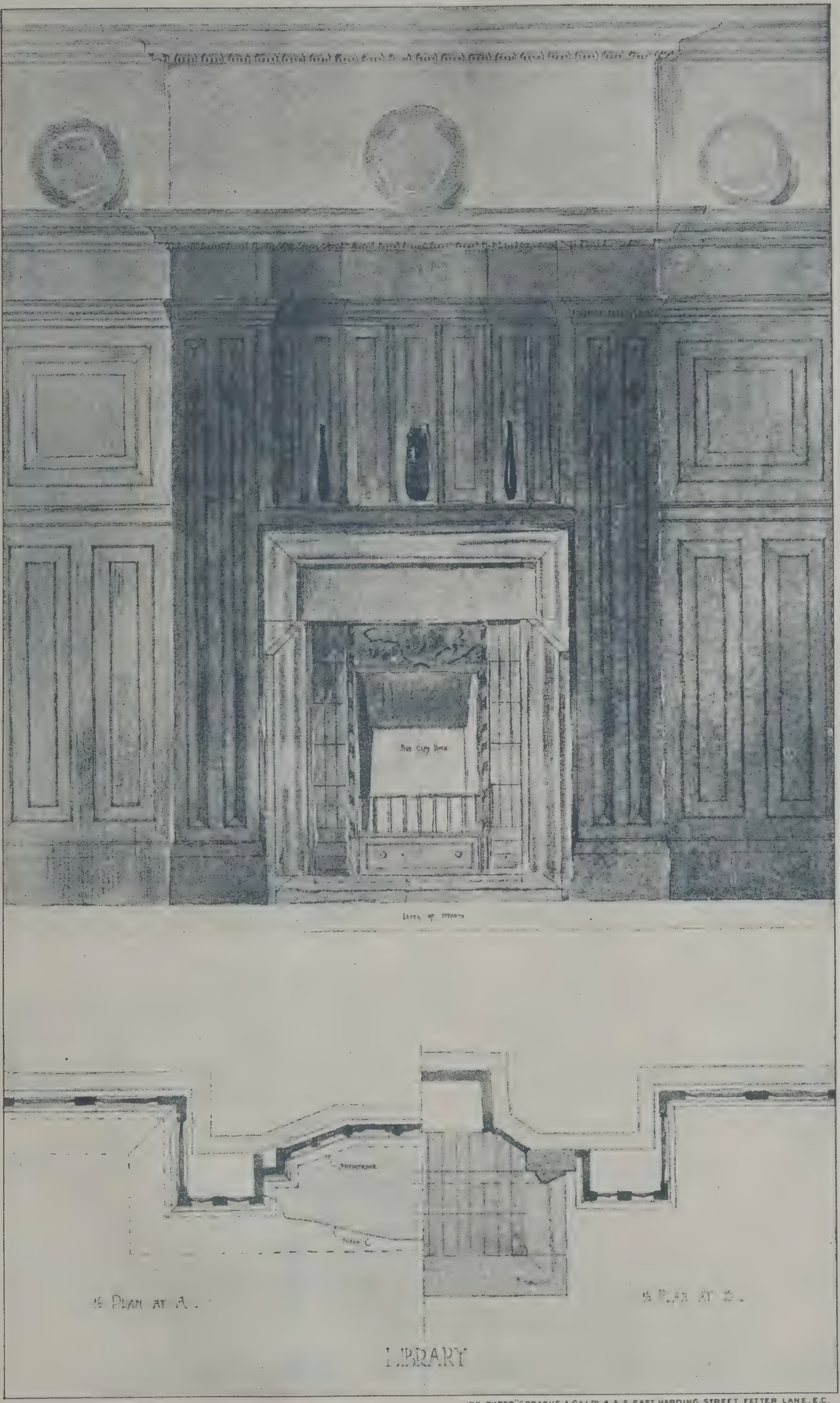
Design for Mantelpiece for Abbess Grange, Hampshire.

By Messrs. BANISTER FLETCHER & SONS.



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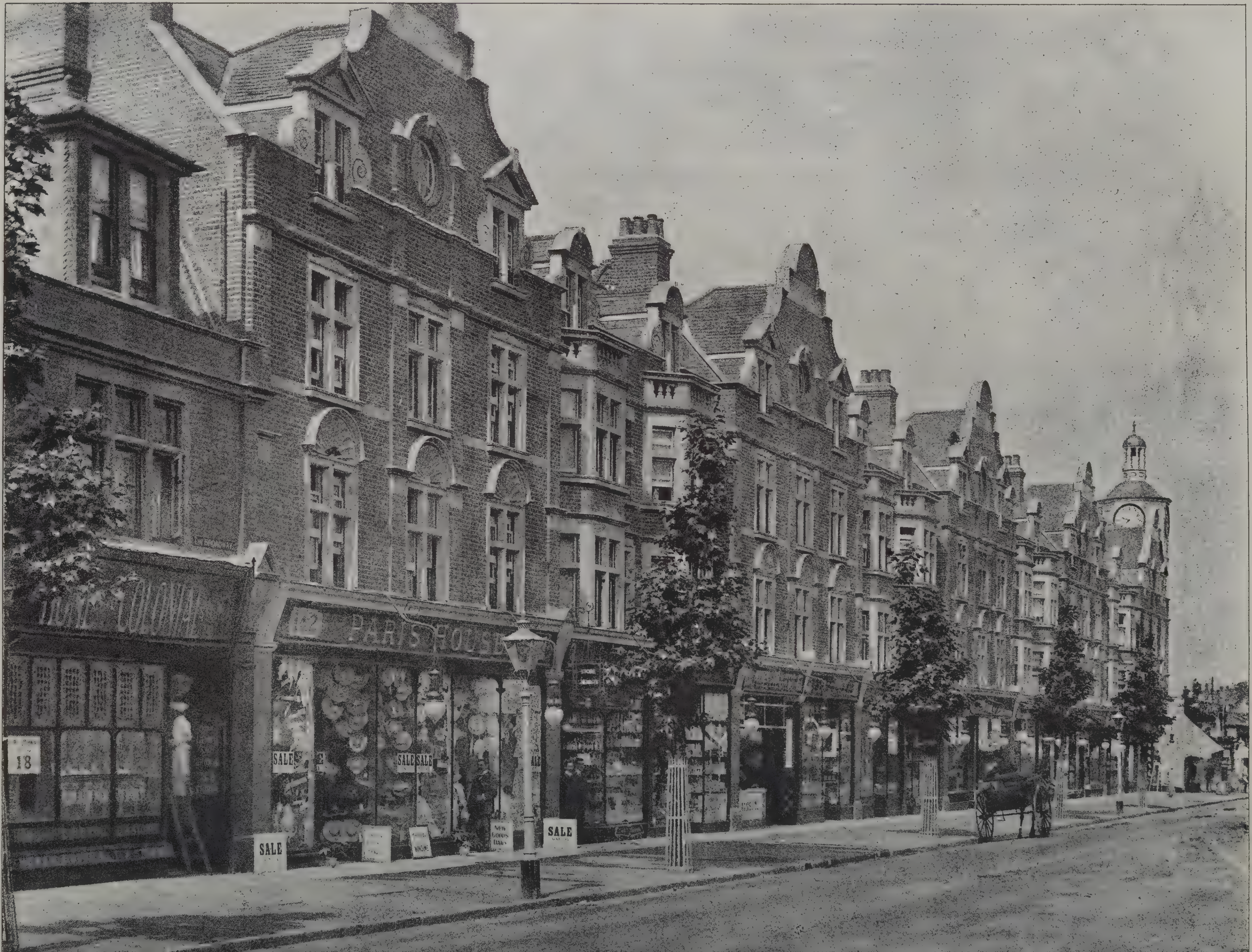
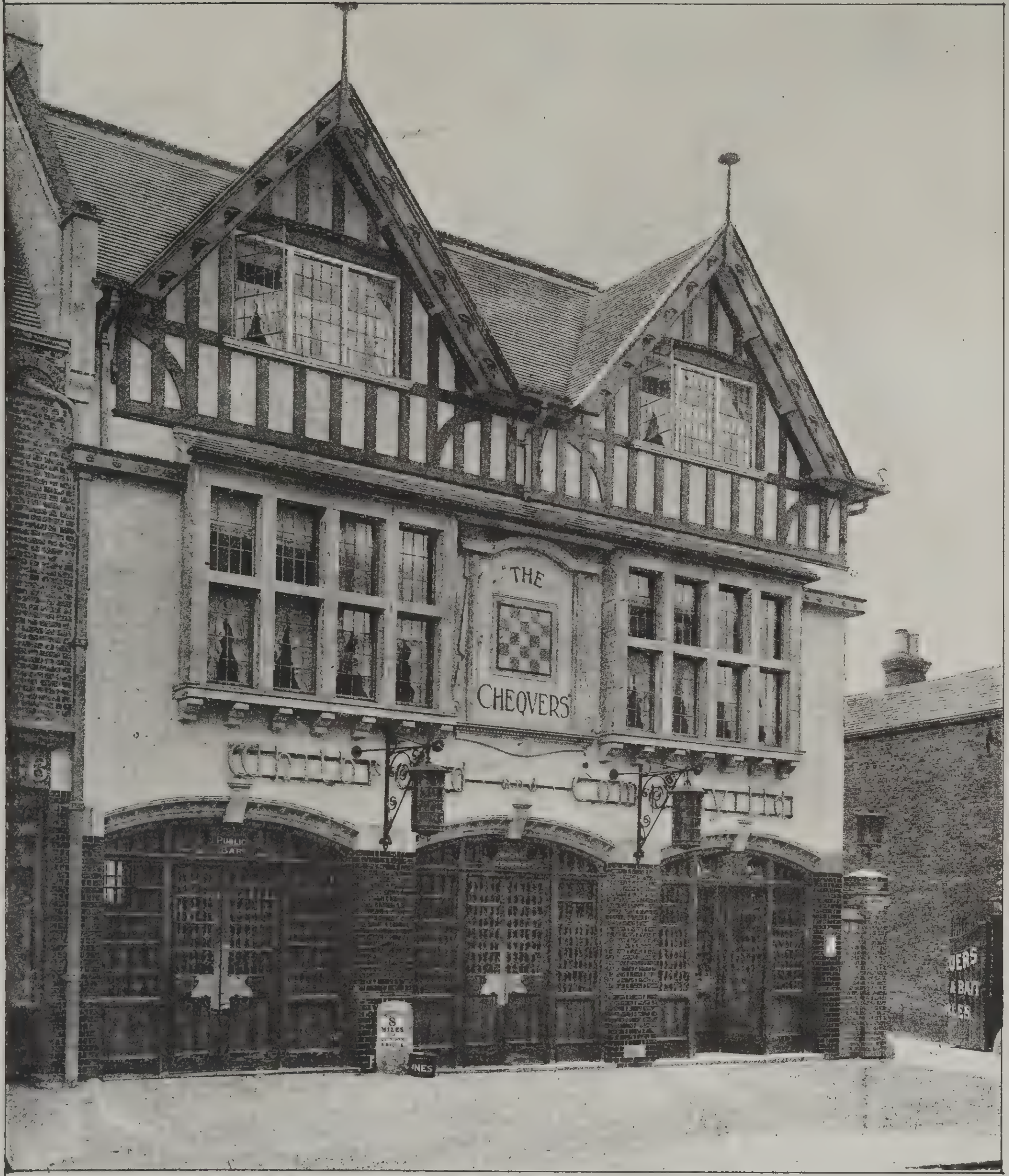

HOME & COLONIAL
PARIS HOUSE
18
SALE
SALE SALE
NEW GOODS DAILY
SALE

ELECTRIC PARADE, SURBITON. ALBERT L. GUY, F.R.I.B.A., Architect.



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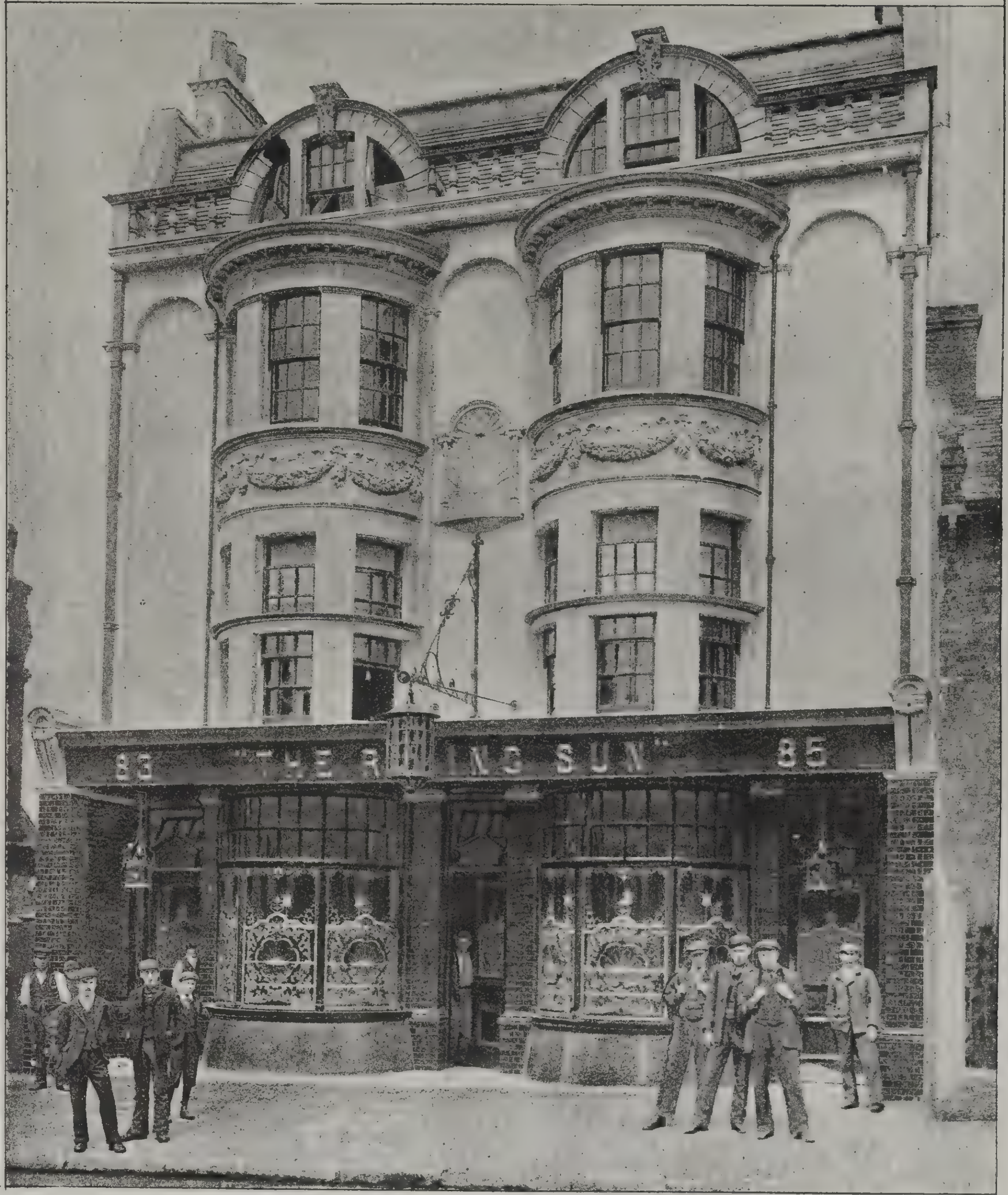

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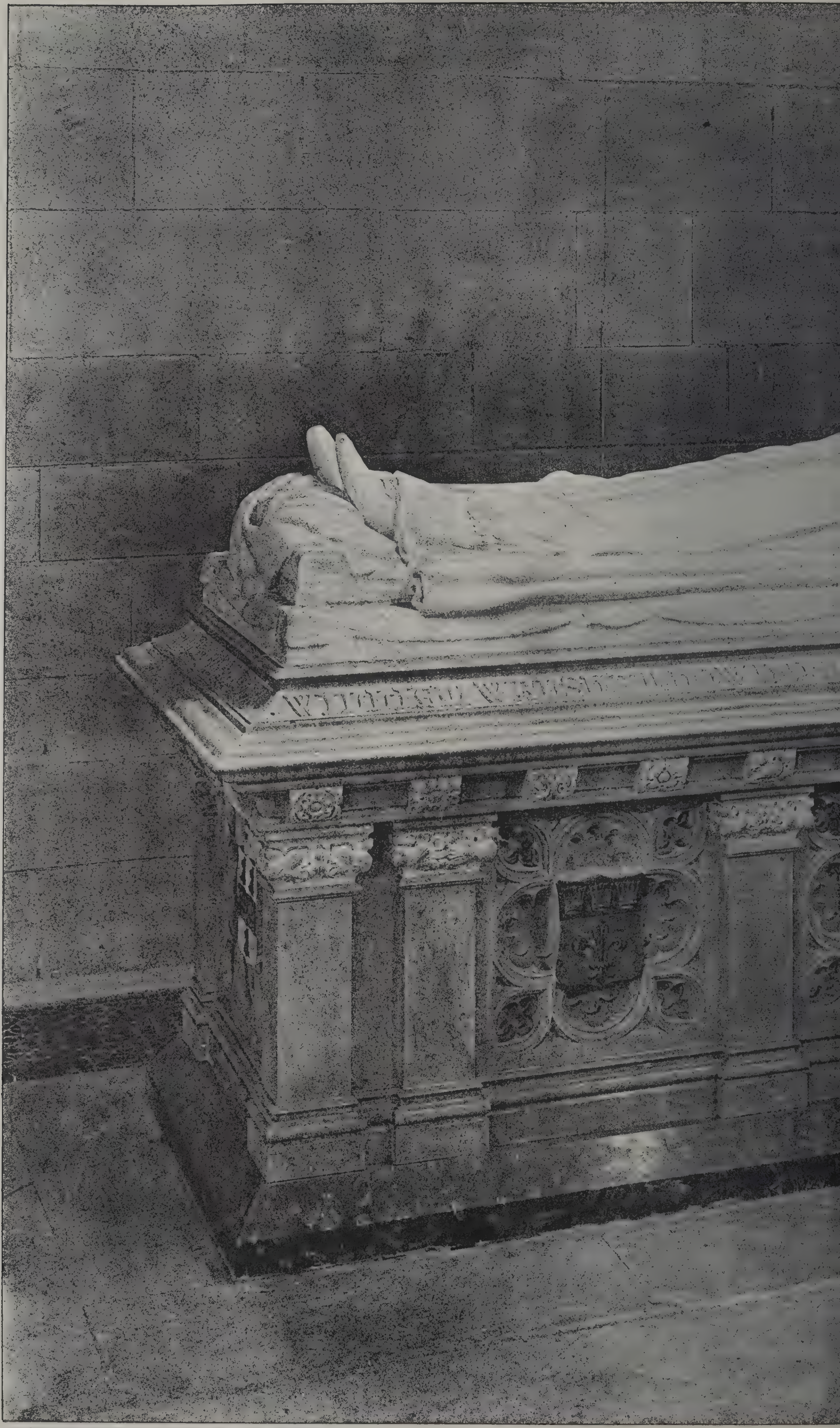

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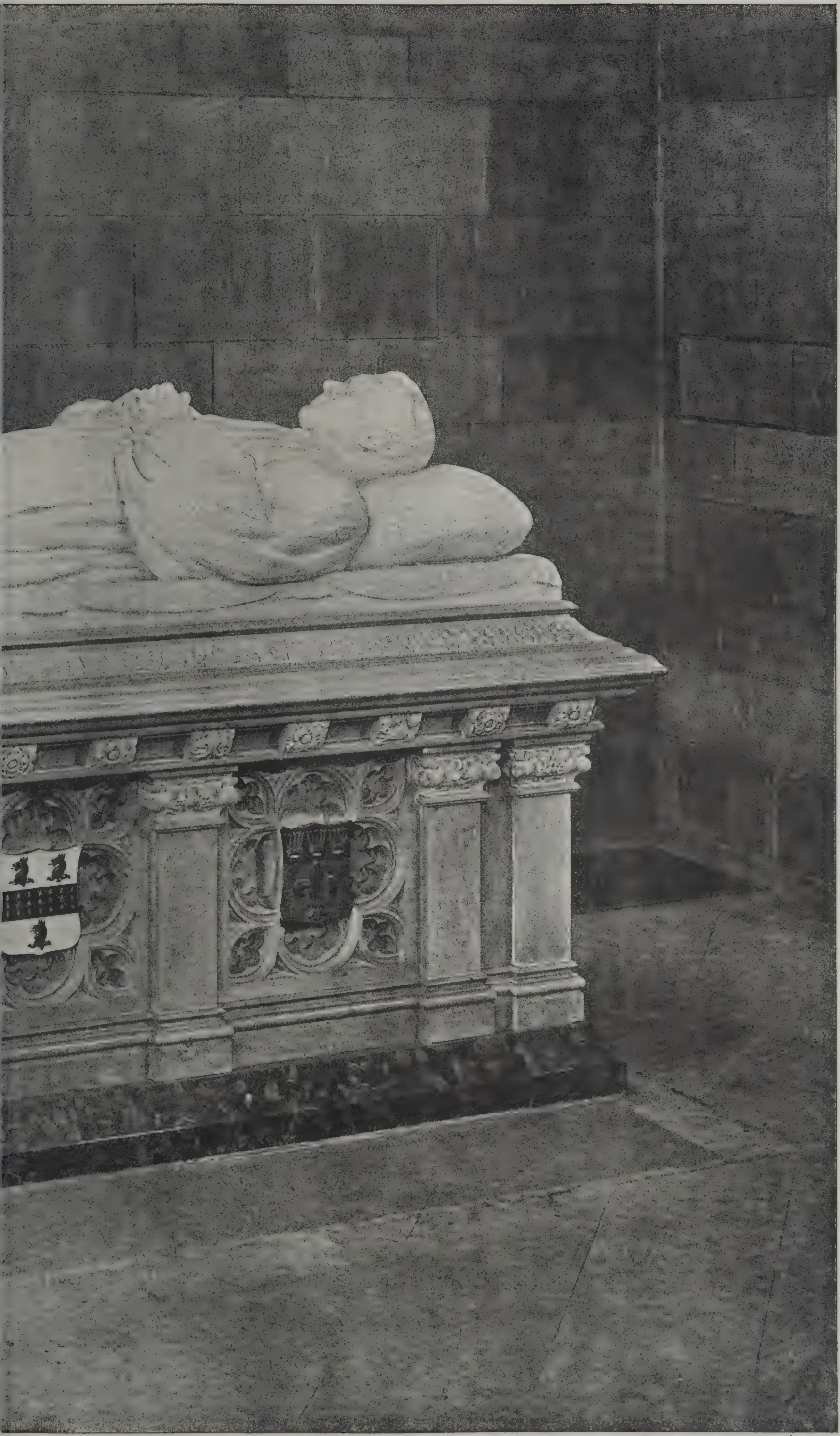

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